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MARYLAND SHELL FISH COMMISSION

UNITED STATES BUREAU OF FISHERIES

UNITED STATES COAST AND GEODETIC SURVEY

SURVEY OF

OYSTER BARS OF MARYLAND

1906-1912

By

CHARLES YATES

REPRESENTATIVE OF UNITED STATES COAST AND
GEODETIC SURVEY ON WORK OF
MARYLAND OYSTER SURVEY

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DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
O. H. TITTMANN, Superintendent

SUMMARY

OF

SURVEY OF OYSTER BARS

OF

MARYLAND

1906–1912

By C. C. YATES
Representative of the United States Coast and Geodetic Survey
on the work of the Maryland Oyster Survey

WASHINGTON
GOVERNMENT PRINTING OFFICE
1913

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LETTER OF SUBMITTAL.

DEPARTMENT OF COMMERCE,
COAST AND GEODETIC SURVEY,
Washington, May 23, 1913.

SIR: I have the honor to transmit herewith the final report of the officer detailed from the United States Coast and Geodetic Survey as representative of that service on the work of the Maryland Oyster Survey.

The report, together with its accompanying index chart, is designed to serve both as a summary of and as an index to the 17 technical publications and 43 oyster charts resulting from the cooperation of the Maryland Shell Fish Commission, the United States Bureau of Fisheries, and the United States Coast and Geodetic Survey in the survey of the oyster resources of Maryland.

The work has been done under the provisions of the act of Congress entitled "An act to authorize the Secretary of Commerce and Labor to cooperate, through the Bureau of the Coast and Geodetic Survey and the Bureau of Fisheries, with the Shell Fish Commissioners of the State of Maryland in making surveys of the natural oyster beds, bars, and rocks in the waters within the State of Maryland," approved May 26, 1906, and of the acts of Congress making appropriations for sundry civil expenses of the Government for the fiscal years ending June 30, 1907, 1908, 1909, 1910, 1911, 1912, and 1913.

Respectfully,

O. H. TITTMANN,
Superintendent.

To Hon. WILLIAM C. REDFIELD,
Secretary of Commerce.

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SUMMARY OF SURVEY OF OYSTERS BARS OF MARYLAND, 1906–1912.

INTRODUCTORY STATEMENTS.

EXPLANATION OF PLAN OF PUBLICATION.

It often happens that the rapid progress of modern science, even when specialized by application to a single class of work, is the indirect cause of an accumulation of technical publications impossible to assimilate and apply to a special case without an amount of labor all out of proportion to the probable benefits to be derived. And this applies with particular force to the six years' work of the Maryland Oyster Survey, as evidenced by its publications consisting of a series of 17 official documents and 43 large-scale charts aggregating over 2,400 printed pages and 400 square feet of chart area.

For reasons similar to those just mentioned, the value of a modern technical publication describing a particular work is for a greater part dependent upon the fidelity with which it is confined to a record of methods and results which can be utilized in future operations of like character. And this end has been accomplished with remarkable success for the work of the Maryland Oyster Survey by Dr. Caswell Grave of Johns Hopkins University and a member of the Maryland Shell Fish Commission from 1906 to 1912, in his Fourth Report of the Shell Fish Commission of Maryland. (*XLIII.*)[1]

The intent of this "Summary" is to supplement Dr. Grave's report, first, by an index chart which also serves as a graphical summary; second, by a brief explanation of the relation of the work of the Government to the Maryland Oyster Survey; third, by a summary of the essential features of the work of the Maryland Oyster Survey; fourth, by a statement of conclusions thought to be of value for use in connection with future oyster surveys; fifth, by a list of publications relating to the oyster industry of Maryland; and, sixth, by a technical index to all publications of the Government and the State directly resulting from the work of the Maryland Oyster Survey.

INDEX CHART AS A GRAPHICAL SUMMARY.

The best summary and index of the six years' work of the Maryland Oyster Survey, and probably the most useful and interesting feature of this publication, is the "Index Chart" in the folder.

The chart is self-explanatory as to details. But other considerations suggest that attention be directed to the magnitude of the shellfish resources of Maryland and to the magnitude of the actual work of the survey as indicated graphically by

[1] See "References," p. 19.

the green and red tinted areas on the water, the numerous small red triangles on the land, and the limits of the many large-scale charts required to represent these results in a practical form for future use.

RELATION OF THE WORK OF THE GOVERNMENT TO THE MARYLAND OYSTER SURVEY.

The Maryland Oyster Survey possessed the somewhat unusual character of having in its participants three separate Government bureaus and one State commission,[1] all engaged in a common work leading to the conservation and the increase of the supply of food in the form of oysters.

In priority of the Government's interest in the subject of oysters, it is so self-evident that the United States Bureau of Fisheries comes first that this phase of the subject requires no explanation. (*IX, X, XI, XII, XIII*, etc.)[2] And the connection of the work of the United States Bureau of Chemistry with the sanitary conditions of the oyster industry is made equally evident by the fact that it is this Bureau which administers the pure-food laws of this country. (*XXXV.*)[2] But the relation of the United States Coast and Geodetic Survey to such work is not so easy to explain. (*XXXIV.*)[2]

The United States Coast and Geodetic Survey includes among its many functions not only the supplying of the chart-making needs of navigation, but also the laying of the geodetic foundation for a large part of the geographic work of our country; and it naturally follows that this foundation part of an "oyster survey" should be laid by the institution normally performing this class of work. Just as in a similar sense, it is better and more economical to have the foundation of a building laid by those experienced in such work, even though in the end it is the superstructure erected on the foundation which is utilized and appreciated by the public.

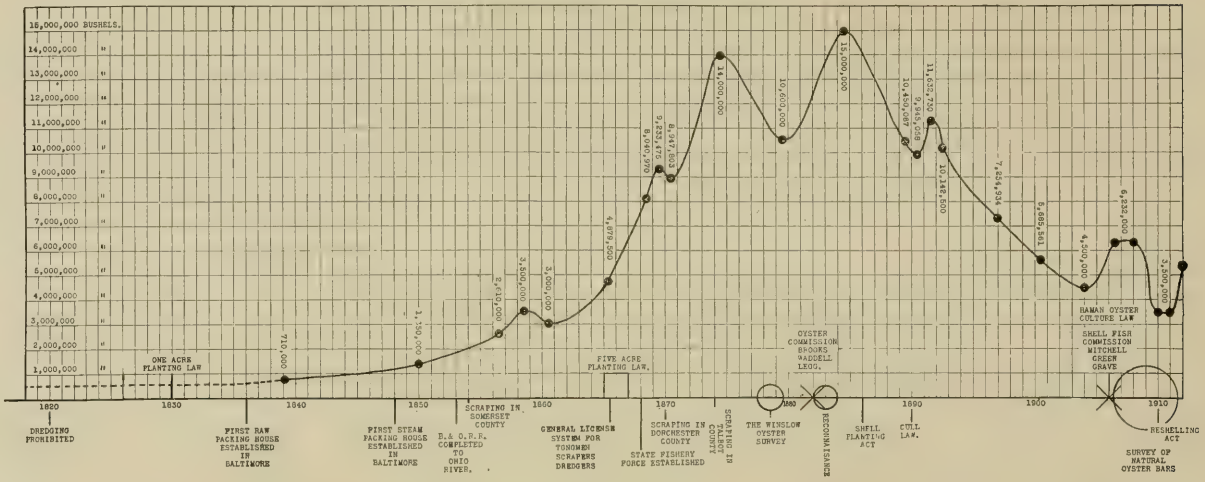
Or stated in another way, it is only a question of the practical connection between the work of the United States Coast and Geodetic Survey in surveying and charting the waters of the coasts for the purposes of navigation, and the work of a so-called "oyster survey" in surveying and charting the oyster bottoms of these same waters of these same coasts for the purpose of developing the oyster industry of our country.

---

[1] U. S. Bureau of Fisheries, U. S. Coast and Geodetic Survey, U. S. Bureau of Chemistry, and Maryland Shell Fish Commission.

[2] See "References," p. 19.

Diagram Showing the History of Oyster Production and Oyster Legislation in Maryland.



MARYLAND OYSTER SURVEY.

HISTORY.

A summary view of the history of the oyster industry of Maryland is graphically represented by the diagram by Grave, which faces this page. (*XXXVI.*) [1]

Another summary view of the same subject is presented by the chronological table of publications under the head of "References," [1] which were selected and arranged partly for that purpose.

The diagram and the table of publications, while being in most respects a sufficient historical statement for the purposes of this publication, do not do justice to the many whose unselfish activities for the benefit of the oyster industry of Maryland have not followed the line of public work leading to a corresponding amount of printed records. And although these public-spirited citizens and officials are hundreds in number, there stands out at the head of this line of achievement, as do Brooks (*V*) [1] and Winslow (*II*) [1] along their respective lines, the author [2] of the Haman Oyster Culture Law (*XLIII*, pp. 353-372) [1] who has most splendidly and persistently led the movement which has molded the history of oyster culture in Maryland for more than twenty years down to the present time. (*VII.*) [1]

OBJECT.

The immediate object of the Maryland Oyster Survey, as distinguished from the hopes of the ultimate benefits to be derived from that work, having been transformed into actual results, it is needless to emphasize this phase of the subject beyond referring to the statistical statements under the head of "Results" and to the graphic representation of these same facts on the "Index Chart."

But the ultimate object of the survey is another matter, and deals more nearly with what the pioneers of the oyster-culture movement in Maryland believed, and now have still more reason to believe, will be the form of the great oyster industry they expect to see erected on the foundation which has been laid for that purpose. (*VII.*) [1]

It now seems not only reasonable but probable that within the next generation the citizens of Maryland will be leasing and cultivating a probable 100,000 and a possible 300,000 acres [3] of so-called "barren bottoms" where oysters do not now grow in commercial quantities; that the more than 200,000 acres of natural oyster bars now reserved for the use of the oystermen as a result of the Maryland Oyster Survey will be so conserved and developed that they will produce, as they have done before, twice the amount they now yield; that the oyster industry of Maryland will then be based on an annual production of 20,000,000 bushels of oysters where now it is

[1] See "References," p. 19.

[2] B. Howard Haman, of Baltimore, Md.

[3] At the present date, May 23, 1913, some 36,000 acres have been applied for or leased.

barely 5,000,000; and that the physical valuation of the State-owned oyster lands will then be $100,000,000, where now it is not more than $20,000,000. (*XXIV*, p. 208; *XLII*, pp. 35–46; *XLV*.)[1]

These are the large expectations that measured, and do still measure, the ultimate object of the Haman Oyster Culture Law, and which led to the building of the Maryland Oyster Survey in such a manner that it will serve as a foundation for even a greater development of the oyster industry of Maryland than was forecasted by its founders.

ORGANIZATION.

The organization of the Maryland Oyster Survey has been indicated in the "Introductory statements" and in the "Conclusions." It is also described in detail in the publications of the Maryland Shell Fish Commission (*XLIII*, pp. 11–25) [1] and the United States Coast and Geodetic Survey (*XLIV*, pp. 19–21, 248–250).[1]

In a general way it is sufficient to state that the greater bulk of the work of this particular oyster survey was divided between the Maryland Shell Fish Commission [2] and the United States Coast and Geodetic Survey in accordance with the laws (*XLIV*, pp. 243–246) [1] authorizing the work and the natural division of the surveying operations of the cooperating forces.

The work of the Maryland Shell Fish Commission included all the oyster investigations, the special hydrographic operations required to delimitate the various shellfish bottoms, the surveying of the leased oyster lots, and all administrative matters pertaining to Maryland. The work of the United States Coast and Geodetic Survey included the establishing of the surveying foundation of triangulation, hydrography and topography, the preparation and publication of the technical and legal descriptions of the boundaries of the various shellfish bottoms reserved for the use of the public, and the preparation and publication of all the oyster charts showing the results of the work of the Maryland Oyster Survey.

Dr. H. F. Moore, the well-known scientist of the United States Bureau of Fisheries and representative of that bureau on the work of the Maryland Oyster Survey, has stated that "the Bureau of Fisheries has cooperated with the Coast and Geodetic Survey and the Maryland Shell Fish Commission principally as an adviser in matters relating to the biological and economic survey of oyster bars and the methods to be employed for that purpose." To which should be added in the way of explanation, that the part of the survey normally coming under the jurisdiction of the United States Bureau of Fisheries was in this case carried on by the State under the supervision of Dr. Caswell Grave, the scientific member of the Maryland Shell Fish Commission. If it had not been for this fortunate circumstance, to again quote Dr. Moore, "this work would have been conducted by the Bureau of Fisheries acting independently, as has been the case in certain other States than Maryland, the same ends being attained at greater expense to the Government." (*XLIV*, p. 20.) [1]

It should be stated also that the sanitary survey of the oyster-producing waters of Maryland by the United States Bureau of Chemistry was not carried on with the advantage of the same degree of cooperation as probably would have been the case if the character of this feature of the work could have been more nearly forecasted at the beginning. (*XXXV*.) [1]

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[1] See "References," p. 19.

[2] See "Personnel," p. 14.

METHODS.

The methods employed on the work of the Maryland Oyster Survey being indicated in outline in the "Conclusions" and also explained in detail in the publications of the Maryland Shell Fish Commission (*XLIII*, pp. 48–95) [1] and the United States Coast and Geodetic Survey (*XLIV*, pp. 248–249, 172–177, 33–36, 20–21),[1] it is not in harmony with the plan of this publication to repeat that information here.

But there is one point in the methods not adequately explained elsewhere in the publications of the Maryland Oyster Survey which it is believed should be emphasized. And that point relates to the advantages of the use of geographic coordinates in technically and legally defining boundaries of natural oyster bars and leased oyster bottoms.

This method of defining property lines under water was also used in the survey of the leased oyster bottoms of Delaware, and outlined in the following extract from the report of that work (*XLVIII*, pp. 69–74):[1]

> The difficulties of accurately locating and permanently defining the boundaries of a farmer's plantation on land, even with the aid of monuments, public roads, streams of water, and other points of reference, are often great, judging from the disputes arising from this source. But be that as it may, there can be no doubt as to the difficulties of accurately locating and permanently defining the boundaries of an oysterman's plantation situated under water at a distance off shore from 1 to 6 miles, as is the case with the leased oyster bottoms of Delaware. (*XLVIII*, map.)[1]
>
> There is only one point on the earth's surface at the intersection of any one parallel of latitude and any one meridian of longitude, and therefore, there can be no dispute as to the meaning of such a geographic definition of the location of a point, even though all the original triangulation station marks used in its determination, together with the chart on which its position was originally plotted, have been totally destroyed.
>
> In the case of the destruction of an original triangulation station mark, or any other point defined by a geographic position, a competent geodetic engineer can reestablish its exact location by means of a new system of triangulation connecting with other distant triangulation station marks which have not been destroyed. In the case of the destruction of the chart on which the position of any such point on the earth's surface was originally plotted, this point can be replotted by its geographic position with any degree of accuracy permitted by the scale of any new chart constructed for that purpose.
>
> If there be no question at the time of the original location and legal adoption of a geographic definition of the location of a point by a given latitude and longitude, there can be no technical or legal question afterwards as to its exact meaning, or as to the exact redetermination of the location of this point, be it either on land or water at its newly determined position, or on a new chart in its newly plotted position.
>
> For these reasons, the method of defining the location of boundary points by latitudes and longitudes (geographic positions) was adopted in the survey of the leased oyster bottoms of Delaware. This method is more or less an innovation in oyster surveys which was first used in connection with the work of the Maryland Oyster Survey. It possesses so many undoubted advantages, and at the same time is so simple in principle and application when once understood, that its adoption by other oyster surveys of other States than Maryland and Delaware seems probable.

RESULTS.

The results of the Maryland Oyster Survey are presented in many forms and in many places throughout the publications of that survey.

Graphically, they are represented on a large scale on the Maryland Oyster Charts, Nos. 1 to 42. (*LIV*.)[1] On a medium-sized scale, they are partly shown on

[1] See "References," p. 19.

the "Progress maps" in the series of the 12 county publications of Survey of Oyster Bars of Maryland.[1] On a much smaller scale they are represented as a whole on the "Index Chart" in the folder of this publication.

Statistically, the results are also described in various tables both in the publications of the Maryland Shell Fish Commission (*XLIII*, pp. 39–47, 102–103, 114–117, 126–127, 132, 145–149, 182–183, 189, 195–199, 206–210, 225–228, 239–241, 246, 321–322, 336–339)[1] and the United States Coast and Geodetic Survey (*XVIII*, pp. 18–19; *XX*, p. 15; *XXII*, p. 16; *XXVI*, p. 16; *XXVIII*, pp. 22–23; *XXX*, p. 14; *XXXII*, p. 14: *XXXIX*, p. 18; *XL*, p. 21; *XLIV*, p. 25; *XLVI*, pp. 23, 180).[1] But as these tables are too separated for the purposes of a summary view, their principle features will be given in groups of statistics arranged in accordance with the class of the results it is desired to present.

STATISTICS OF RESULTS PERTAINING TO SHELLFISH BOTTOMS RESERVED FOR PUBLIC USE.

	Acres.
Natural oyster bars surveyed, technically defined, and reserved for the use of the public	215,845
Crab bottoms surveyed, technically defined, and reserved for the use of the public	43,991
Clam beds surveyed, technically defined, and reserved for the use of the public	506

STATISTICS OF RESULTS PERTAINING TO OYSTER BOTTOMS SUITABLE FOR OYSTER CULTURE.

	Acres.
Undeveloped, but known productive oyster culture bottoms owned by the State and subject to lease under the terms of the Haman Oyster Culture Law	100,000
Undeveloped, but estimated as being potentially productive oyster culture bottoms owned by the State and subject to lease under the terms of the Haman Oyster Culture Law	200,000
"Barren bottoms" of doubtful value for the growth of oysters, although in waters sufficiently salt for the purpose and subject to lease under the terms of the Haman Oyster Culture Law	460,000

STATISTICS OF RESULTS PERTAINING TO SURVEYING DATA USEFUL FOR SURVEY OPERATIONS OTHER THAN OYSTER SURVEYS.

Triangulation stations based on the standard datum of the United States Coast and Geodetic Survey	1,112
Miles of shore line covered by triangulation	1,340
Square miles of water covered by triangulation	1,600
Square miles of land controlled by triangulation	1,200
Miles of soundings[2]	3,060
Soundings[2]	159,530
Square miles of water covered by soundings[2]	480
Tide stations established[2]	30

OTHER STATISTICS OF FIELD WORK INDICATING THE STANDARD OF THE SURVEYING OPERATIONS ON WHICH THE RESULTS ARE BASED.

Oyster investigation stations occupied for examination of bottoms and other data	11,006
Miles of examination of shell bottoms with chain apparatus	3,060
Triangulation stations occupied	1,050
Boundary buoys located and anchored	2,964
Monuments planted to mark triangulation stations	1,000
Sextant angles observed on sounding lines	62,600

[1] See "References," p. 19.

[2] This part of the work was done under the immediate direction of Swepson Earle, Hydrographic Engineer of the Maryland Shell Fish Commission.

STATISTICS OF OFFICE WORK INDICATING CHARACTER OF RESULTS.

Hydrographic positions plotted	8,600
Large-scale projections prepared, showing legal boundaries of shellfish bottoms	87
Geographic positions of triangulation stations computed	1,100
Large-scale leasing charts prepared	63
Triangles computed	2,500
Description of triangulation stations prepared for publication	1,112
Back azimuths and distances from corners of boundaries to triangulation stations computed	10,000

STATISTICS OF PUBLICATIONS INDICATING QUANTITY OF WORK.

Reports of Maryland Shell Fish Commission	4
Printed pages in Maryland Shell Fish Commission reports	900
Publications of the United States Coast and Geodetic Survey	13
Printed pages in the United States Coast and Geodetic Survey publications	1,560
Progress maps in United States Coast and Geodetic Survey publications	12
Oyster charts showing boundaries of shellfish bottoms published by United States Coast and Geodetic Survey	43

EQUIPMENT.

The equipment for the work of the Maryland Oyster Survey is fully described in the publications of the Maryland Shell Fish Commission (*XLIII*, pp. 34–36)[1] and the United States Coast and Geodetic Survey (*XVI*, pp. 102–104).[1]

In a general way it may be stated that the equipment was ample and satisfactory, especially in respect to the large living and office quarters on the Maryland Shell Fish Commission houseboat *Oyster* (*XLIII*, p. 35)[1] and the equipment of instruments furnished by the United States Coast and Geodetic Survey for both the work of the Government and State.

COST.

On account of the divided administration that naturally goes along with cooperative work of several independent institutions, the problem of fixing the cost of the six years' work of the Maryland Oyster Survey presents many difficulties. But Dr. Grave in the "Fourth Report of the Shell Fish Commission of Maryland" (*XLIII*, p. 33)[1] has placed the figure at something more than a total of $200,000 for all the work of both the Government and the State.

Accepting $200,000 as the cost of the Maryland Oyster Survey, the following deductions will be of interest:

The total area of the tidewaters of Maryland covered by the Maryland Oyster Survey, including natural oyster bars, crab bottoms, clam beds, bottoms suitable for oyster culture, and all other bottoms interspaced between these shellfish areas, is approximately 1,600 square miles, or 1,020,000 acres. This makes the cost of surveying and charting this area approximately $125 a square mile, or 20 cents an acre.

The total annual production of oysters in Maryland is now approximately 5,000,000 bushels, and the estimated ultimate production is 20,000,000 bushels. This makes a total cost of 1 cent per bushel for the estimated ultimate annual yield of the oyster industry to be operated on the surveying basis established by the

[1] See "References," p. 19.

Maryland Oyster Survey, or 1½ cents per bushel for the predicted 15,000,000-bushel increase in annual production.

The total physical valuation of the oyster industry of Maryland is estimated as being now approximately $20,000,000, and the predicted ultimate valuation has been placed at $100,000,000. This makes the cost of the Maryland Oyster Survey one-fifth of 1 per cent of the predicted ultimate value of the oyster industry to be based on that work, or one-quarter of 1 per cent of the predicted increase in valuation. (*XLII, XLV.*)[1]

CHRONOLOGICAL STATEMENT.

The chronological account of the six years' work of the Maryland Oyster Survey occupies many pages of both the publications of the Maryland Shell Fish Commission (*XLIII*, pp. 9–24, 37–38)[1] and the United States Coast and Geodetic Survey (*XVI*, pp. 104–105; *XVIII*, pp. 17–18; *XX*, pp. 14–15; *XXII*, p. 15; *XXVI*, pp. 15–16; *XXVIII*, pp. 21–22; *XXX*, pp. 13–14; *XXXII*, p. 13; *XXXIX*, pp. 17–18; *XL*, pp. 19–20; *XLIV*, pp. 23–25; *XLVI*, pp. 22–23).[1] For the purposes of this publication it is thought that it will be sufficient to give a table of the dates of the beginning of the field work and the closing of the office work for each county. The dates of the close of office work also being the dates of the filing of the certified charts and reports marking the legal opening of each county for the purpose of oyster culture under the provisions of the Haman Oyster Culture Law.

County	Beginning of field work	Close of office work and date of filing of certified charts and reports
Anne Arundel	June 29, 1906	June 20, 1907
Somerset	May 2, 1907	July 1, 1908
Wicomico	Aug. 27, 1907	Dec. 1, 1908
Worcester	Nov. 8, 1907	Apr. 12, 1909
Calvert	May 2, 1908	Dec. 14, 1909
Charles	Aug. 18, 1908	Jan. 27, 1911
St. Marys	May 2, 1908	July 6, 1911
Baltimore	Apr. 14, 1909	Aug. 10, 1911
Kent	Apr. 14, 1909	Oct. 5, 1911
Queen Annes	Apr. 14, 1909	Nov. 29, 1911
Talbot	July 6, 1909	July 20, 1912
Dorchester	Mar. 14, 1910	Aug. 17, 1912

PERSONNEL (1906–1912)

The following list of those directly connected with the work of the Maryland Oyster Survey, either as executives or technical experts, is given for purposes of reference only. So much could be said that is fine and true of the character and spirit of the work of many who were directly and indirectly connected with the six years' operations of the Maryland Oyster Survey, and the desire to say it is so great, that under the circumstances the only practical course in a summary publication of this sort is to omit all such comments. (*XLIV*, pp. 25–26; *XLIII*, pp. 11–25; *XXXIV*, p. 13.)[1]

[1] See "References," p. 19.

STATE OF MARYLAND.

Maryland Shell Fish Commission.

Commissioners.

WALTER J. MITCHELL (1906–1912).
CASWELL GRAVE (1906–1912).
BENJAMIN K. GREEN (1906–1912).

Chief Engineer.

SWEPSON EARLE (1906–1912).

Assistant Engineers.

W. GIBSON EMORY (1906–1908).
ERNEST REPPENHAGEN (1907–1909).
T. H. GRAVE (1907–1911).
H. A. MARSTON (1908–1910).
H. E. COLLINS (1910).
HUGH MITCHELL (1909–1912).

U. S. DEPARTMENT OF COMMERCE.

U. S. BUREAU OF FISHERIES.

Representative of Bureau,

H. F. MOORE (1906–1912).

U. S. COAST AND GEODETIC SURVEY.

Representative of Survey.

C. C. YATES (1906–1912).

Assistant Engineers.

FRANK W. SETH (1906–1912).
E. A. BORST (1906, 1907, 1909).
N. L. ARBUCKLE (1906–1910).
PAUL C. WHITNEY (1907).
J. J. PHELAN (1907–1910).
TEMPLETON VAN DE BOGERT (1911, 1912).
T. H. GRAVE (1911).

Draftsmen.

JOHN D. TORREY (1906–1911).
G. C. MOORE (1906–1911).
R. L. ROSS (1911–1912).
T. J. STOCKTON (1911).
GEORGE W. MYERS (1911).

Special Drafting Work.

DAVID M. HILDRETH.
C. R. THOMPSON.
ROBERT F. STORM.
J. C. MULFORD.

CONCLUSIONS.

GENERAL STATEMENT.

The Maryland Oyster Survey is probably the most extensive and complete work of its kind. And for that reason many of the conclusions resulting from experience gained in that work might be of public interest. But in harmony with the plan of this publication only those will be given which are thought to be of special value for use in connection with the consideration of future surveys of similar character.

The primary object of an oyster survey from a national point of view is to conserve and increase the national supply of food. And before this can be done intelligently and economically it is evident that an inventory (or a survey as it is more commonly called) of the oyster resources under investigation must be made and recorded on charts and in other forms. (*XXIII, LIV.*)[1]

As distinguished from a national point of view, the object of an oyster survey of a particular State or locality naturally partakes more of the character of a desire to develop the wealth of that State or locality by increasing its oyster industries or by revenues obtained from the leasing of the land underneath its oyster-producing waters. And like the Government, it is evident that a State can not accomplish these objects intelligently and economically without first having a survey made of its oyster resources. (*XLIII, XLVIII.*)[1]

Considered from both these points of view, the cooperation of the General Government with a State government appears to be not only a legitimate and an economical arrangement, but also the best method of conducting an oyster survey.

REQUIREMENTS OF AN OYSTER SURVEY.

From the Government standpoint, the chief requirements of an oyster survey appear to be:

First. The representation on charts of the bottoms of the oyster-producing waters in such a manner as to show not only the limits of the natural growth of oysters as to locality and quantity, but also such other related information about these areas and the contiguous bottoms as will best indicate their value for the purpose of oyster culture. (*XXIII, XLIX, LIV.*)[1]

Second. A more detail description of the oyster bottoms than can be shown by symbols on the charts, and such other information as to the saltness of the water, the quantity and quality of the oyster food in the water, currents, tides, surrounding sanitary conditions, character of bottom, etc., as affect the growth and value of oysters. (*X, XXXV, XLI, XLIX.*)[1]

Third. The carrying on of the oyster survey in such a manner that whenever it is economical to do so the results of certain parts of the surveying operations made necessary by the requirements of the oyster survey can be utilized as a geographic

[1] See "References," p. 19.

foundation for chart-making surveys, mapping of the adjacent land regions, river and harbor improvements, etc. (*XXXIV; XLIV*, pp. 36–171; *XLVIII*, pp. 59–68.)[1]

From the State or local standpoint the desirable requirements of an oyster survey, in addition to those just stated, appear to be:

First. The well-defined representation on published charts, in a more or less arbitrary form, of the so-called "natural oyster bars" which are to be reserved for the use of the public by reason of ancient customs, public sentiment, or the laws of the State in which they are located. (*LIV.*)[1] And a similar well-defined representation on published charts of the boundaries of the bottoms leased from the State by private individuals for the purpose of oyster culture. (*XLVIII*, map.)[1]

Second. A more detail, technical, and legal description of the boundaries of these public natural oyster bars (*XLIV*, pp. 172–242)[1] and private leased oyster bottoms (*XLVIII*, pp. 69–108)[1] than can be secured by their representation on the charts, in order that the State can furnish an easily defined and incontestible title to those oyster bottoms it may desire to lease for the purposes of revenue or for the encouragement of oyster culture.

Third. The representation of the information obtained by the oyster survey in such a manner, both on charts and in publications, as will best combat the obstacles due to ignorance, prejudice, and politics, which are always to be found, to a greater or less extent, in every locality where oyster culture is in progress or being contemplated. (*VII, XXIX, XXXIV, XXXVI, XXXVII, XXXVIII, XLI, XLII, XLV, LIII.*)[1]

SUGGESTED ORGANIZATION OF AN OYSTER SURVEY.

A complete oyster survey includes a part of the normal scientific operations of three separate bureaus [2] of the General Government, and for that reason, as has been previously indicated, an ideal survey of the oyster resources of any one State would involve the cooperation of these three Government bureaus with a State commission especially created for that purpose. (*XXXIV.*)[1]

Arranged in the order of actual operations, and without reference to priority or magnitude of the interests involved, the distribution of the work of the suggested cooperative oyster survey would be as follows:

United States Coast and Geodetic Survey.—The establishment of a surveying foundation of triangulation, topography, and hydrography.

United States Bureau of Fisheries.—The delimitation of the boundaries of the various classes of oyster bottoms and other scientific operations pertaining particularly to oysters.

United States Bureau of Chemistry.—The sanitary survey of the oyster-producing waters.

State Oyster Survey Commission.—The marking, defining, and charting of the boundaries of both public and leased oyster bottoms, and the consideration of matters relating to the economic development of the oyster industry to be based on the results of the oyster survey.

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[1] See "References," p. 19.

[2] Bureau of Fisheries, Coast and Geodetic Survey, and Bureau of Chemistry.

COST OF AN OYSTER SURVEY.

There is no one thing more important to either the layman or the engineer than to be able to make some sort of an estimate of the final cost of any engineering work being considered. And while the cost of any such work as the survey of the vast oyster resources of Maryland is information which should be recorded, it is of value chiefly for the means it furnishes for estimating the cost of future engineering works of similar character.

Adopting the figures of Dr. Caswell Grave,[1] the cost of a new oyster survey based on results obtained by the Maryland Oyster Survey would be approximately 20 cents an acre for the entire area to be covered without reference to the various bottoms as finally classified. The legitimate share of the State's expenses being estimated at 11 cents and those of the Government at 9 cents an acre.

In considering the cost of an oyster survey, it should not be forgotten that the benefit to be derived by the Government from such operations would be not only in the form of an increase in the food supply of the country, but also in the form of a surveying foundation suitable for other chart and map making operations, river and harbor improvements, and so forth.

In further explanation it should be stated that all the uncertain elements of weather, season, character of the topography, refinement of results demanded, urgency for completion of work, and so forth, which make it so difficult to estimate the cost of a geographic survey on land, are further magnified in an oyster survey. Not only by waves produced by winds that would not deter work on land, but also by social and political conditions which are usually associated with such work.

It is also well to state in the way of warning that the preceding cost data when used as a basis for estimating the cost of oyster surveys in other States than Maryland may give only an approximately correct estimate under certain conditions. That for large open bodies of water, it might give an overestimate for good weather and an underestimate for bad weather, while for small bodies of water with complicated shore line and numerous small scattered oyster areas, it would probably furnish an underestimate because of the increased detail of the work in proportion to the total area of the survey.

[1] See p. 13.

REFERENCES.

NOTE.—This list of publications was prepared solely for the purpose of furnishing such references as best suit the plan of this publication, and it should not be considered as being complete in any other sense.

Reference number.	Date.	Title.	Author or editor.	Publisher.	Pages, etc.
I	1880	Report of the Commissioners of Fisheries of Maryland.	T. B. Ferguson, Thos. Hughlett, Wm. K. Brooks, Francis Winslow.	Commission of Fisheries of Maryland.	347; illus.
II	1881	Report on the oyster beds of the James River, Va., and of Tangier and Pocomoke Sounds, Md. and Va.	Francis Winslow.....	U. S. Coast and Geodetic Survey.	87; maps; illus.
III	1881	Report of Commissioner of Fisheries of Maryland.	T. B. Ferguson, John A. Ryder, Francis Winslow.	Commission of Fisheries of Maryland.	158; illus.
IV	1881	The oyster industry.....	Ernest Ingersol.....	Bureau of Census.....	251; illus.
V	1884	The development and protection of the oyster in Maryland.	Wm. K. Brooks.....	Johns Hokpins University.	193; maps; illus.
VI	1891	The oyster.....	.....do.....	.....do.....	230; illus.
VII	1893	Oysters and roads.....	B. Howard Haman...	Maryland Road League.	44.
VIII	1893	Oyster records. Distances and bearings of numbered corners of public grounds, etc., of the State of Virginia.	J. B. Baylor.....	Virginia Fish Commission.	Pamphlet for each county.
IX	1895	The oyster industry of Maryland.....	Charles H. Stevenson.	U. S. Bureau of Fisheries.	110; illus.
X	1897	Oysters and methods of oyster culture with notes on clam culture.	H. F. Moore.....	.....do.....	78; illus.
XI	1899	Report on the oyster beds of Louisiana	.....do.....	.....do.....	55; illus.
XII	1904	Investigations for the promotion of the oyster industry of North Carolina.	Caswell Grave.....	.....do.....	95; map; illus.
XIII	1905	The crab industry of Maryland.....	Winthrop A. Roberts.	.....do.....	18.
XIV	1907	First report of the Shell Fish Commission of Maryland.	Caswell Grave.....	Maryland Shell Fish Commission.	231; illus.
XV	1907	Survey of oyster bottoms in Matagorda Bay, Tex.	H. F. Moore.....	U. S. Bureau of Fisheries.	86; map; illus.
XVI	1907	Survey of oyster bars, Anne Arundel County, Md.	C. C. Yates.....	U. S. Coast and Geodetic Survey.	106; map.
XVII	1908	Fisheries of the United States.....	Bureau of Census.....	Bureau of Census.....	324.
XVIII	1908	Survey of oyster bars, Somerset County, Md.	C. C. Yates.....	U. S. Coast and Geodetic Survey.	118; map.
XIX	1909	Second report of the Shell Fish Commission of Maryland.	Caswell Grave.....	Maryland Shell Fish Commission.	149; illus.
XX	1909	Survey of oyster bars, Wicomico County, Md.	C. C. Yates.....	U. S. Coast and Geodetic Survey.	54; map.
XXI	1909	Oyster supply of Maryland.....	Caswell Grave.....	Conservation Commission of Maryland.	13; illus.
XXII	1909	Survey of oyster bars, Worcester County, Md.	C. C. Yates.....	U. S. Coast and Geodetic Survey.	67; map.
XXIII	1910	Condition and extent of the oyster beds of James River, Va.	H. F. Moore.....	U. S. Bureau of Fisheries.	83; map.
XXIV	1910	Shell-fish industries.....	James L. Kellogg.....	Henry Holt & Co.....	361; illus.
XXV	1910	Oyster-culture experiments and investigations in Louisiana.	H. F. Moore, T. E. B. Pope.	U. S. Bureau of Fisheries.	54.
XXVI	1910	Survey of oyster bars, Calvert County, Md.	C. C. Yates.....	U. S. Coast and Geodetic Survey.	94; map.
XXVII	1911	Condition and extent of the natural oyster beds of Delaware.	H. F. Moore.....	U. S. Bureau of Fisheries.	29; map.

References—Continued.

Reference number.	Date.	Title.	Author or editor.	Publisher.	Pages, etc.
XXVIII	1911	Survey of oyster bars, St. Marys County, Md.	C. C. Yates	U. S. Coast and Geodetic Survey.	203; map.
XXIX	1911	Proposed amendments to the Haman Oyster Culture Law.	Maryland Shell Fish Commission.	Maryland Shell Fish Commission.	16.
XXX	1911	Survey of oyster bars, Charles County, Md.	C. C. Yates	U. S. Coast and Geodetic Survey.	62; map.
XXXI	1911	Third report of the Shell Fish Commission of Maryland.	Caswell Grave	Maryland Shell Fish Commission.	133; illus.
XXXII	1911	Survey of oyster bars, Baltimore County, Md.	C. C. Yates	U. S. Coast and Geodetic Survey.	42; map.
XXXIII	1911	Report of proceedings of the third annual Convention of the National Association of Shellfish Commissioners.	Swepson Earle	National Association of Shellfish Commissioners.	98; illus.
XXXIV	1911	The relation of the work of the U. S. Coast and Geodetic Survey to State Oyster Surveys.	C. C. Yates		13.
XXXV	1911	Shellfish contamination from sewage-polluted waters and from other sources.	George Whitfield Stiles, Jr.	U. S. Bureau of Chemistry.	53; illus.
XXXVI	1912	History of oyster production in Maryland, 1810–1912.	Caswell Grave		11.
XXXVII	1912	Analysis of the Campbell Oyster Bill	C. C. Yates	Maryland Shell Fish Commission.	23.
XXXVIII	1912	What the crab industry is worth to Maryland.	Swepson Earle		7.
XXXIX	1912	Survey of oyster bars, Kent County, Md.	C. C. Yates	U. S. Coast and Geodetic Survey.	130; map.
XL	1912	Survey of oyster bars, Queen Annes County, Md.	do	do	176; map.
XLI	1912	A manual of oyster culture of Maryland.	Caswell Grave		75; illus.
XLII	1912	Discussion of the Campbell Oyster Culture Bill as amended by the Price Oyster Plan providing for conservation of natural oyster bars along with oyster culture on barren bottoms.	C. C. Yates	Maryland Shell Fish Commission.	53.
XLIII	1912	Fourth report of the Shell Fish Commission of Maryland.	Caswell Grave	do	376; illus.
XLIV	1912	Survey of oyster bars, Talbot County, Md.	C. C. Yates	U. S. Coast and Geodetic Survey.	250; map.
XLV	1912	Notes on the history of the oyster in Maryland and the physical valuation of her oyster properties.	Caswell Grave	Maryland Shell Fish Commission.	11; map.
XLVI	1912	Survey of oyster bars, Dorchester County, Md.	C. C. Yates	U. S. Coast and Geodetic Survey.	180; map.
XLVII	1913	Fish and oyster law of the State of Maryland.	V. Calvin Trice	State Fishery Force	154.
XLVIII	1913	Report of Delaware Oyster Survey Commission 1909–1912.	C. C. Yates	Delaware Oyster Survey Commission.	108; map.
XLIX	1913	Condition and extent of the natural oyster beds and barren bottoms of Mississippi Sound, Ala.	H. F. Moore	U. S. Bureau of Fisheries.	61; map.
L	1913	Condition and extent of the natural oyster beds and barren bottoms of Mississippi, east of Biloxi.	do	do	41 illus.
LI	1913	Oyster industry of Maryland and Virginia, 1912.	U. S. Bureau of Fisheries.	do	Large sheet of statistics.
LII	1913	Fifth report of the Shell Fish Commission of Maryland.	William H. Maltbie	Maryland Shell Fish Commission.	12.
LIII	1913	Oysters: The World's most valuable water crop. (National Geographic Magazine, March, 1913.)	Hugh M. Smith	National Geographic Society.	26; illus.
LIV	1906 to 1913	Maryland Oyster Charts showing result of survey by Maryland Shell Fish Commission, U. S. Bureau of Fisheries, and U. S. Coast and Geodetic Survey Charts Nos. 1 to 42 and Index Chart.	C. C. Yates	U. S. Coast and Geodetic Survey.	42 charts, scale 1:20,000, each 30 by 40 inches.

TECHNICAL INDEX TO PUBLICATIONS.

EXPLANATION.

The technical index to the publications of the Maryland Oyster Survey is divided into four sections of two parts each under the heads of "Natural oyster bars," "Crab bottoms," "Clam beds" and "Landmarks (U. S. Coast and Geodetic Survey triangulation stations)."

The *first part* of each section is an "Alphabetical index," which gives for each natural oyster bar, crab bottom, clam bed, or triangulation station, as the case may be—

1. The serial number of the Maryland oyster chart on which it is shown.
2. The approximate geographic location in latitude and longitude.
3. The county in which it is located.
4. The "County index number" by which it is indicated on the "Index chart."[1]
5. The page number of the United States Coast and Geodetic Survey county publication of "Survey of oyster bars" on which it is technically described as to boundaries and locations.
6. The page number of the Fourth Report of the Shell Fish Commission, on which are described its characteristics pertaining particularly to oysters.

The *second part* of each section is a "Numerical index" arranged in a separate division for each county within which "Natural oyster bars," "Crab bottoms," "Clam beds," or "Triangulation stations" are located, and gives only the names of the bars, bottoms, beds, or stations, as the case may be, corresponding to the "County index number" of these same objects as shown on the "Index chart."

The "County index numbers" are arranged in numerical order on the "Index chart," commencing with No. 1 for each county, and in using an index number obtained from the "Index chart" it should be coupled with the name of the county in which it is located. The names of the different counties are given in large red letters on the "Index chart" and their boundaries are shown by red dash and dot lines.

[1] See chart in folder of this publication.

NATURAL OYSTER BARS.

ALPHABETICAL INDEX.

NOTE.—See Numerical Index for names of natural oyster bars corresponding to numbers on Index Chart.

Name of oyster bar	Chart number of Maryland Oyster Chart on which shown	Approximate geographic location				County in which located.	County index number by which indicated on Index Chart	Page of U. S. Coast and Geodetic county publication of Survey of Oyster Bars on which boundaries are defined	Page of Fourth Report of Maryland Shell Fish Commission on which characteristics are described
		Latitude		Longitude					
		°	′	°	′				
Abell	25	38	17	76	43	St. Marys	95	184	148
Aberdeen	3	38	57	76	32	Anne Arundel	56	54	115
Aisquith Creek	2	39	02	76	32	Anne Arundel	30	42	115
Aldridges Discovery	32	38	52	76	15	Talbot	30	182	209
Almshouse	3	38	56	76	32	Anne Arundel	60	53	115
Along Shore	37, 38	38	31	76	16	Dorchester	54	131	196
Applegarth	40	38	13	76	06	Dorchester	86	147	198
Arnold Point	2	39	02	76	32	Anne Arundel	31	44	115
Ash Craft	32	38	48	76	13	Talbot	19	187	209
Bachelor Point	34, 35	38	40	76	11	Talbot	92	220	206
Back of Island	20	38	19	76	28	Calvert	23	78	126
Back Shore	34, 35, 37	38	39	76	10	Talbot	112	220	210
Bailey	30	39	08	76	09	Kent	52	117	240
Bakers Cove	34	38	42	76	07	Talbot	104	226	207
Bald Eagle (Little Choptank River)	36, 37	38	33	76	18	Dorchester	34	129	196
Bald Eagle (Eastern Bay)	32	38	54	76	14	Queen Annes	62	156	226
Bamings Cove	34	38	43	76	08	Talbot	101	225	207
Barn Gates	20	38	20	76	29	Calvert	24	77	126
Barn Point	37	38	32	76	13	Dorchester	48	137	197
Barnett	34	38	46	76	11	Talbot	16	234	209
Barren Neck	3	38	51	76	32	Anne Arundel	82	58	116
Batts Neck	31	38	54	76	19	Queen Annes	43	137	227
Baxters Hollow	32	38	53	76	11	Queen Annes	85	161	225
Bay Bush Point	30	39	03	76	12	Kent	37	111	239
Bay Hundred	33	38	44	76	21	Talbot	40	194	210
Bay Shore	4	38	48	76	30	Anne Arundel	88	63	117
Bazzles Hill	34	38	47	76	12	Talbot	17	233	209
Beacons	35	38	38	76	07	Talbot	118	236	210
Bean Shoal	41	38	18	75	56	Dorchester	118	159	195
Beard Point	3	38	57	76	32	Anne Arundel	58	54	115
Beef Creek	14, 15	38	06	75	18	Worcester	13	53	246
Bell Buoy	41, 42	38	12	76	01	Dorchester	82	150	198
Belts	30	39	03	76	12	Kent	35	110	239
Benoni	34, 37	38	40	76	13	Talbot	90	219	210
Bibby	32	38	56	76	15	Queen Annes	65	151	226
Big Annemessex	7	38	03	75	50	Somerset	23	73	182
Big Bay Point	15	38	04	75	17	Worcester	21	56	246
Big Hill	12	38	12	75	57	Wicomico	12	46	189
Big Island	2	39	03	76	34	Anne Arundel	34	44	115
Biscoe	24	38	12	76	27	St. Marys	56	165	146
Black	2	39	04	76	28	Anne Arundel	10	29	114

ALPHABETICAL INDEX TO NATURAL OYSTER BARS—Continued.

Name of oyster bar	Chart number of Maryland Oyster Chart on which shown	Approximate geographic location				County in which located	County index number by which indicated on Index Chart	Page of U. S. Coast and Geodetic county publication of Survey of Oyster Bars on which boundaries are defined	Page of Fourth Report of Maryland Shell Fish Commission on which characteristics are described
		Latitude		Longitude					
		°	′	°	′				
Black Buoy (Chester River)	30	39	01	76	11	Kent	33	109	239
Black Walnut (Bretons Bay)	25	38	15	76	40	St. Marys	82	177	147
Black Walnut (Big Choptank River)	33, 36, 37	38	40	76	19	Talbot	45	197	210
Blakistone	26	38	17	76	48	St. Marys	114	191	148
Bloodsworth	40, 41	38	13	76	03	Dorchester	84	149	198
Blue Sow	25	38	14	76	42	St. Marys	91	178	147
Bluff Point (Chester River)	30	39	04	76	12	Kent	38	111	239
Bluff Point (Wicomico River)	26	38	16	76	49	St. Marys	113	191	148
Bluff Woods	25	38	16	76	43	St. Marys	100	183	148
Blunt	30	38	59	76	12	Queen Annes	22	120	227
Boat House	30	39	06	76	10	Kent	45	114	240
Bob Wise	20	38	20	76	29	St. Marys	15	139	145
Bodkin Island	31, 32	38	54	76	17	Queen Annes	55	146	227
Bodkin Point North	1	39	09	76	26	Anne Arundel	1	26	117
Bodkin Point South	1	39	07	76	25	Anne Arundel	2	27	117
Bodkin Shoals	31	38	53	76	18	Queen Annes	35	132	226
Bolingbroke Sand	35	38	35	76	03	Talbot	124	239	206
Bolston Bank	3	38	53	76	32	Anne Arundel	76	61	116
Booker Wharf	30	39	08	76	04	Queen Annes	2	129	227
Boundary	42	38	05	76	04	Dorchester	78	161	199
Bozman Neck	32	38	51	76	15	Talbot	26	183	209
Bramleigh Creek	26	38	18	76	50	St. Marys	117	189	149
Brannock	36, 37	38	36	76	17	Dorchester	27	120	199
Bretons Bay	25	38	15	76	42	St. Marys	90	178	147
Brewer (Severn River)	2	39	02	76	32	Anne Arundel	36	43	115
Brewer (South River)	3	38	56	76	32	Anne Arundel	61	52	115
Brice Fence	3	38	52	76	31	Anne Arundel	79	60	116
Brick House	31	38	57	76	22	Queen Annes	31	130	228
Brick House Hill	31	38	53	76	19	Queen Annes	36	133	226
Bridge	38	38	28	76	17	Dorchester	57	138	197
British Harbour	35	38	35	76	00	Talbot	128	241	206
Broad Creek	29	39	00	76	20	Queen Annes	30	116	228
Broad Creek Middle ground	34	38	44	76	14	Talbot	80	210	207
Broad Neck (Calvert Co.)	19	38	28	76	39	Calvert	37	71	126
Broad Neck (St. Marys Co.)	19	38	28	76	39	St. Marys	3	134	145
Brooks Shallows	19	38	30	76	40	St. Marys	1	133	145
Broome Island	19	38	24	76	34	Calvert	30	74	126
Brown	34	38	43	76	16	Talbot	69	208	207
Bruffs Island	32	38	51	76	12	Talbot	6	190	209
Brumell	37	38	33	76	13	Dorchester	45	135	197
Brushy Point	34	38	45	76	16	Talbot	76	212	208
Bryan (Wye River)	32	38	53	76	10	Queen Annes	87	162	225
Bryan (St. Marys River)	24	38	12	76	27	St. Marys	54	166	146

ALPHABETICAL INDEX TO NATURAL OYSTER BARS—Continued.

Name of oyster bar	Chart number of Maryland Oyster Chart on which shown	Approximate geographic location				County in which located	County index number by which indicated on Index Chart	Page of U. S. Coast and Geodetic county publication of Survey of Oyster Bars on which boundaries are defined	Page of Fourth Report of Maryland Shell Fish Commission on which characteristics are described
		Latitude		Longitude					
		°	′	°	′				
Buce	3	38	53	76	32	Anne Arundel	73	62	116
Buckhorn	32	38	58	76	15	Queen Annes	70	147	226
Bugby	32	38	53	76	13	Queen Annes	77	158	226
Bullock	26	38	15	76	49	St. Marys	110	193	148
Bullock Island	26	38	15	76	48	St. Marys	109	193	148
Bungay	41	38	17	76	01	Dorchester	110	155	195
Bunker Hill	31	38	53	76	20	Queen Annes	37	133	226
Buoy	5	38	13	75	53	Somerset	3	62	183
Buoy Rock	29, 30	39	00	76	14	Kent	30	108	239
Butler	22	38	06	76	20	St. Marys	32	148	149
Butterpot	37	38	32	76	14	Dorchester	41	133	196
Buzzard Island	19	38	29	76	40	Calvert	39	70	127
Cabin Creek (Choptank River)	35	38	38	75	59	Dorchester	3	112	197
Cabin Creek (Prospect Bay)	32	38	56	76	13	Queen Annes	74	154	226
Cabin Creek Entrance	35	38	38	75	58	Dorchester	2	111	197
Camden Point	34	38	44	76	07	Talbot	110	229	207
Canoe Creek	25	38	15	76	44	St. Marys	101	182	148
Captain Point	19	38	23	76	32	St. Marys	9	136	145
Carpenter Island	30	39	01	76	11	Queen Annes	20	121	227
Carpenters Yard	26	38	30	76	40	Charles	3	54	132
Carroll Muds (Calvert Co.)	20	38	19	76	25	Calvert	15	82	126–127
Carroll Muds (St. Marys Co.)	20	38	19	76	25	St. Marys	22	142	145–149
Carthagena Creek	24	38	09	76	28	St. Marys	62	157	146
Carvel	29	39	00	76	17	Queen Annes	27	118	227
Cason	37	38	32	76	15	Dorchester	38	132	196
Castle Haven	35, 37	38	38	76	12	Dorchester	18	118	199
Castle Haven Creek	35	38	37	76	10	Dorchester	17	117	199
Cators	36, 37, 38	38	30	76	19	Dorchester	61	124	196
Cedar Island	31	38	55	76	17	Queen Annes	57	144	227
Cedar Point (West River)	3	38	51	76	31	Anne Arundel	84	58	116
Cedar Point (St. George River)	24	38	09	76	30	St. Marys	76	171	147
Cedar Point (Broad Creek)	34	38	44	76	14	Talbot	81	214	207
Cedar Point Hollow	20, 21	38	16	76	23	St. Marys	25	144	149
Cedar Shoal	11	38	18	75	54	Wicomico	6	44	189
Chadwick	24	38	10	76	31	St. Marys	79	173	147
Chain Shoal	7	38	07	75	58	Somerset	11	67	183
Chancellor Point	35	38	35	76	01	Talbot	127	240	206
Change	33	38	43	76	18	Talbot	51	200	208
Chapel Point	25	38	16	76	42	St. Marys	94	182	148
Chaptico Lumps	26	38	20	76	51	St. Marys	121	187	149
Charleston Creek	26	38	17	76	50	Charles	11	50	132
Chase	2	39	01	76	31	Anne Arundel	28	41	114
Cherry (Rhode River)	3	38	53	76	31	Anne Arundel	72	60	115
Cherry (St. Marys River)	24	38	07	76	28	St. Marys	66	154	146

ALPHABETICAL INDEX TO NATURAL OYSTER BARS—Continued.

Name of oyster bar	Chart number of Maryland Oyster Chart on which shown	Approximate geographic location				County in which located	County index number by which indicated on Index Chart	Page of U. S. Coast and Geodetic county publication of Survey of Oyster Bars on which boundaries are defined	Page of Fourth Report of Maryland Shell Fish Commission on which characteristics are described
		Latitude		Longitude					
		°	′	°	′				
Cherry Island	37	38	34	76	13	Dorchester	44	136	197
Cherry Tree (Patuxent River)	20	38	19	76	27	Calvert	21	79	126
Cherry Tree (Nanticoke River)	11	38	18	75	55	Wicomico	8	44	189
Chester River Middleground	30	39	05	76	11	Kent	39	112	239
Cheston Point	3	38	52	76	31	Anne Arundel	80	59	116
Chicken Cock	24	38	07	76	26	St. Marys	41	153	146
Chinese Muds (Calvert Co.)	20	38	21	76	23	Calvert	13	83	127
Chinese Muds (St. Marys Co.)	20	38	19	76	22	St. Marys	24	143	149
Chinks Point	2	38	58	76	28	Anne Arundel	44	35	115
Chlora Point	35	38	38	76	09	Talbot	117	235	210
Choptank Lumps	34, 37	38	40	76	14	Talbot	89	218	210
Church Creek	8	37	59	76	05	Somerset	37	74	183
Church Hill	33, 34	38	41	76	18	Talbot	48	198	210
Clay Bank	33, 36	38	27	76	23	Talbot	43	196	210
Clay Island	41	38	14	75	59	Dorchester	112	153	195
Clem Point	2	39	01	76	32	Anne Arundel	37	42	115
Cliff	30	39	06	76	09	Kent	56	118	239
Coad	24	38	09	76	28	St. Marys	63	156	146
Coal Lump	28	39	15	76	15	Kent	3	96	241
Cobb Point	26	38	15	76	50	Charles	15	52	132
Coffee	32	38	52	76	13	Queen Annes	80	158	226
Cohouck	26	38	21	76	51	St. Marys	122	187	149
Collins Flats	3	38	51	76	31	Anne Arundel	85	57	116
Commander	35	38	35	76	07	Dorchester	14	116	199
Commegys Bight	30	39	06	76	08	Kent	57	119	239
Cook Point	36, 37	38	39	76	17	Dorchester	22	118	199
Cooper Creek	24	38	10	76	27	St. Marys	59	161	146
Coopers Point	34	38	45	76	16	Talbot	74	211	208
Coppage	24	38	10	76	27	St. Marys	60	161	146
Cormal	7	38	08	75	50	Somerset	17	69	182
Corners Wharf	37	38	37	76	13	Dorchester	19	129	199
Cove Point Bight	20	38	22	76	22	Calvert	9	85	127
Cow Island	36, 37	38	33	76	18	Dorchester	33	128	196
Cox	34	38	46	76	09	Talbot	15	235	209
Cox Neck	31	38	54	76	17	Queen Annes	56	145	227
Crab Alley Lumps	31, 32	38	55	76	16	Queen Annes	59	144	227
Crab Point	40	38	16	76	08	Dorchester	89	147	198
Creces Cove	2	38	59	76	29	Anne Arundel	23	37	114
Curtis	3	38	52	76	30	Anne Arundel	86	57	117
Daddie Dare	17	38	34	76	30	Calvert	5	66	127
Dark Point	40	38	18	76	10	Dorchester	94	144	198
Davis Creek	30	39	07	76	10	Kent	47	115	240
Dawson	34	38	41	76	17	Talbot	66	206	210
Deep Landing Hole	28, 29	39	09	76	16	Kent	11	101	241
Deep Neck	34	38	44	76	15	Talbot	70	209	207
Deep Point	30	39	07	76	07	Kent	59	119	239
Deep Point Mud	20	38	18	76	26	St. Marys	21	142	145
Deep Shoal	28	39	15	76	14	Kent	2	95	241
Deep Water	15	38	04	75	17	Worcester	23	57	246

ALPHABETICAL INDEX TO NATURAL OYSTER BARS—Continued.

Name of oyster bar	Chart number of Maryland Oyster Chart on which shown	Approximate geographic location				County in which located	County index number by which indicated on Index Chart	Page of U. S. Coast and Geodetic county publication of Survey of Oyster Bars on which boundaries are defined	Page of Fourth Report of Maryland Shell Fish Commission on which characteristics are described
		Latitude		Longitude					
		°	′	°	′				
Deep Water Point	32	38	48	76	13	Talbot	20	186	209
Diamond (Chesapeake Bay)	36, 37	38	37	76	20	Dorchester	25	120	199
Diamond (Chincoteague Bay)	14, 15	38	06	75	17	Worcester	12	54	246
Dickinson	35	38	36	76	06	Talbot	121	238	210
Dividing	32	38	53	76	10	Queen Annes	96	166	225
Dixon	35	38	36	75	59	Dorchester	5	112	197
Dominion	32	38	56	76	15	Queen Annes	66	151	226
Double Mills	34	38	44	76	08	Talbot	108	228	207
Dredge Rock	29	39	01	76	15	Kent	26	106	239
Drum	15	38	04	75	16	Worcester	19	56	246
Drum Point (Choptank River)	35	38	39	75	57	Dorchester	1	111	197
Drum Point (Langford Creek)	30	39	07	76	10	Kent	46	114	240
Drum Point (Wye River)	32	38	53	76	11	Queen Annes	89	163	225
Drum Point (Manokin River)	7	38	07	75	53	Somerset	19	71	182
Drum Point (Broad Creek)	34	38	45	76	13	Talbot	82	214	207
Duck Island	41	38	16	76	00	Dorchester	111	155	195
Dukehart Channel	25	38	13	76	45	St. Marys	104	179	147
Dunbar	24	38	07	76	24	St. Marys	37	152	145
Dupont	36, 37	38	37	76	18	Dorchester	26	120	199
Durdin	30	39	02	76	12	Kent	34	109	239
Dutchman	3	38	52	76	30	Anne Arundel	70	56	117
Dutchman Hollow	3	38	52	76	31	Anne Arundel	71	59	115
Duvall	3	38	57	76	32	Anne Arundel	57	53	115
Eagle Point (Langford Creek)	30	39	08	76	10	Kent	49	116	240
Eagle Point (Harris Creek)	33	38	44	76	19	Talbot	52	201	208
Earle Cove	30	39	05	76	08	Queen Annes	10	126	228
East End	32	38	50	76	13	Talbot	9	189	209
East Neck Bay	29	39	04	76	16	Kent	23	105	241
Easter Cove	15	38	04	75	19	Worcester	16	55	246
Ebb Point	30	39	06	76	09	Kent	55	118	239
Edmund	24	38	08	76	27	St. Marys	64	155	146
Elbow	26	38	31	76	40	Charles	2	53	132
Emanuel	17, 18	38	30	76	29	Calvert	7	67	127
Emory Hollow	30	39	06	76	08	Queen Annes	6	128	227
Emory Wharf	30	39	05	76	08	Queen Annes	11	125	228
Ennis	14	38	11	75	14	Worcester	5	50	246
Entrance Lumps	29	39	03	76	15	Kent	24	106	240
Erickson Sands	31	38	55	76	19	Queen Annes	45	138	227
Evans (Fishing Bay)	41	38	15	76	01	Dorchester	102	154	195
Evans (Wicomico River)	5	38	13	75	54	Somerset	4	62	182
Fairhaven	4	38	45	76	33	Anne Arundel	90	64	116
Fenwick	26	38	18	76	50	Charles	9	49	132
Ferry (Kent Co.)	29	39	00	76	15	Kent	29	107	239
Ferry (Queen Annes Co.)	29	39	00	76	15	Queen Annes	26	118	227

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Name of oyster bar	Chart number of Maryland Oyster Chart on which shown	Approximate geographic location		County in which located	County index number by which indicated on Index Chart	Page of U. S. Coast and Geodetic county publication of Survey of Oyster Bars on which boundaries are defined	Page of Fourth Report of Maryland Shell Fish Commission on which characteristics are described
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		° ′	° ′				
Ferry Point	2	39 00	76 29	Anne Arundel	24	37	114
Fish Hawk	21, 22	38 09	76 19	St. Marys	29	146	149
Fishing Creek	37	38 32	76 12	Dorchester	50	138	197
Flag Pond	18	38 26	76 26	Calvert	8	68	127
Flat Island	3	38 53	76 32	Anne Arundel	74	62	116
Flat Rock	41	38 20	76 00	Dorchester	106	157	195
Flatty	34	38 43	76 08	Talbot	106	227	207
Flood Point	29	38 59	76 15	Queen Annes	24	119	226
Fort	24	38 08	76 26	St. Marys	42	155	146
Fox	34	38 46	76 14	Talbot	86	216	207
Fox Island	9	37 55	75 56	Somerset	26	75	183
Fox Hole	34	38 41	76 11	Talbot	93	221	206
Fox Point	3	38 56	76 31	Anne Arundel	54	51	115
France	34	38 41	76 17	Talbot	65	206	210
Frog Point	41	38 14	75 57	Dorchester	114	158	195
Gales Lumps	28	39 13	76 17	Kent	6	96	241
Gatton	19	38 24	76 34	St. Marys	8	136	145
Georges	5, 7	38 08	75 50	Somerset	15	64	182
Gibsons Flats	34	38 47	76 12	Talbot	13	233	209
Goodwin	20	38 19	76 28	St. Marys	18	140	145
Goose Creek	41	38 16	76 01	Dorchester	103	154	195
Goose Neck	34	38 42	76 10	Talbot	97	223	206
Goose Point (St. George River)	24	38 08	76 29	St. Marys	69	168	147
Goose Point (Choptank River)	35	38 36	76 00	Talbot	129	241	206
Gough	25	38 15	76 40	St. Marys	83	176	147
Governors Run	17, 18	38 31	76 30	Calvert	6	67	127
Granary Point	32	38 53	76 08	Queen Annes	98	167	225
Granger	36, 37, 38	38 30	76 20	Dorchester	62	124	196
Grapevine	37	38 32	76 11	Dorchester	51	138	197
Gravelly Run	24	38 11	76 26	St. Marys	51	162	146
Graves	24	38 07	76 25	St. Marys	39	151	145
Great Bar	34	38 43	76 15	Talbot	68	208	207
Great Marsh	34	38 42	76 17	Talbot	64	207	208
Great Rock	9	37 56	75 56	Somerset	25	75	183
Great Shoals	12	38 13	75 53	Wicomico	13	47	189
Green Marsh	35	38 35	76 04	Dorchester	9	114	199
Greenwood Creek	32	38 53	76 12	Queen Annes	78	157	226
Greeves Cove	31	38 55	76 20	Queen Annes	41	135	227
Guest Marshes	25	38 18	76 43	St. Marys	97	185	148
Gum	39, 40	38 20	76 12	Dorchester	97	142	198
Gum Spring	29	39 07	76 15	Kent	19	103	240
Gum Thicket	31	38 53	76 23	Queen Annes	32	131	228
Gunby	10	37 56	75 46	Somerset	30	77	182
Hackett Point	2	38 59	76 25	Anne Arundel	15	32	116
Hackley Creek	26	38 14	76 47	St. Marys	107	194	148
Haddaway	30	39 08	76 06	Kent	61	120	239
Hail Creek	30	39 01	76 12	Kent	31	108	239
Hail Point	30	39 00	76 12	Kent	32	109	239
Haines	5	38 11	75 58	Somerset	7	61	183
Half Pone	20	38 22	76 31	St. Marys	13	138	145
Half Way Mark	41	38 19	76 01	Dorchester	107	157	195
Halls Point	5	38 12	75 57	Somerset	6	61	182
Hambleton	32	38 50	76 14	Talbot	23	185	209

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		° ′	° ′				
Hambleton Hill	32	38 50	76 14	Talbot	25	184	209
Hambrooks	35	38 36	76 05	Dorchester	10	114	199
Handys Hammock	13, 14	38 12	75 14	Worcester	2	49	246
Harris	7	38 03	75 53	Somerset	22	73	183
Harrison	34	38 47	76 16	Talbot	79	214	207
Harry Jacks	25	38 18	76 43	St. Marys	98	186	148
Hawks Nest	20	38 20	76 30	St. Marys	14	138	145
Hellen	20	38 22	76 29	Calvert	26	76	126
Hells Delight	30	39 04	76 11	Queen Annes	17	123	227
Henpeck	36, 37, 38	38 31	76 19	Dorchester	60	125	196
Heron Island Reef	25	38 13	76 43	St. Marys	80	179	147
Heron Island Sound	25	38 14	76 43	St. Marys	81	179	147
Herring Island	32	38 50	76 13	Talbot	8	189	209
Hess	32	38 52	76 11	Queen Annes	91	164	225
Hickory Thicket	29	39 04	76 15	Kent	22	105	240
Hickory Nut	11	38 19	75 54	Wicomico	4	43	189
Hickory	40	38 16	76 10	Dorchester	92	145	198
High Island	3	38 53	76 32	Anne Arundel	75	61	116
Hill	41	38 19	76 01	Dorchester	108	156	195
Hill Point (Severn River)	3	38 55	76 30	Anne Arundel	53	51	115
Hill Point East	3	38 55	76 30	Anne Arundel	52	50	115
Hills and Holes	41	38 16	75 56	Dorchester	116	158	195
Hills Point (Chesapeake Bay)	36, 37	38 35	76 19	Dorchester	29	121	199
Hills Point North	36, 37	38 35	76 21	Dorchester	30	121	199
Hills Point South	36, 37	38 34	76 21	Dorchester	31	122	199
Hobbs	32	38 53	76 12	Queen Annes	84	160	225
Hodges	28	39 11	76 16	Kent	7	98	241
Hog Island (Prospect Bay)	32	38 58	76 15	Queen Annes	68	149	226
Hog Island (Patuxent River)	20	38 19	76 23	St. Marys	23	143	149
Hog Point	16	38 42	76 30	Calvert	1	64	127
Holland Straits	42	38 07	76 05	Dorchester	79	162	198
Holland	12	38 15	75 51	Wicomico	15	48	189
Holland Point (Chesapeake Bay)	4	38 44	76 30	Anne Arundel	91	65	117
Holland Point (Patuxent River)	19	38 30	76 40	Calvert	40	69	127
Holland Point (Broad Creek)	34	38 46	76 15	Talbot	78	213	207
Hollyday (Kent Co.)	30	39 08	76 05	Kent	62	120	239
Hollyday (Queen Annes Co.)	30	39 08	76 05	Queen Annes	3	129	227
Holton Point	30	39 05	76 09	Queen Annes	8	124	227
Hood	32	38 56	76 14	Queen Annes	73	153	226
Hooper	36, 37, 38	38 31	76 17	Dorchester	55	125	196
Hooper Strait	40	38 13	76 07	Dorchester	75	148	198
Hopkins	34, 35	38 40	76 09	Talbot	113	230	206
Hopkins Cove	41	38 13	76 03	Dorchester	85	149	198
Horn Point (Severn River)	2	38 58	76 28	Anne Arundel	43	36	115
Horn Point (Choptank River)	35	38 36	76 09	Dorchester	15	116	199

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Name of oyster bar	Chart number of Maryland Oyster Chart on which shown	Approximate geographic location				County in which located	County index number by which indicated on Index Chart	Page of U. S. Coast and Geodetic county publication of Survey of Oyster Bars on which boundaries are defined	Page of Fourth Report of Maryland Shell Fish Commission on which characteristics are described
		Latitude		Longitude					
		°	′	°	′				
Horse	25	38	14	76	44	St. Marys	103	180	147
Horsehead North	15	38	03	75	16	Worcester	27	58	246
Horsehead South	15	38	03	75	16	Worcester	28	59	246
Horse Point Channel	39, 40	38	18	76	14	Dorchester	72	140	199
Horse Race	30	39	02	76	11	Queen Annes	19	122	227
Horseshoe (St. Marys River)	24	38	12	76	27	St. Marys	53	165	146
Horseshoe (Miles River)	32	38	52	76	14	Talbot	29	182	209
Howells Point	35	38	37	76	07	Talbot	120	237	210
Hudson (Little Choptank River)	37	38	33	76	15	Dorchester	39	133	19
Hudson (Chester River)	30	39	06	76	11	Kent	43	113	240
Hungerford Hollow	20	38	20	76	29	Calvert	25	76	126
Huntingfield	29	39	07	76	15	Kent	18	103	240
Hunts	33	38	44	76	19	Talbot	55	202	208
Hurdle	24	38	08	76	29	St. Marys	68	167	147
Ingram Shoal	12	38	14	75	52	Wicomico	14	47	189
Inner Round Point	3	38	55	76	31	Anne Arundel	64	50	115
Irish Creek	34	38	41	76	13	Talbot	88	217	210
Inside Greenbury	2	38	59	76	27	Anne Arundel	20	35	114
Island	25	38	16	76	39	St. Marys	86	174	147
Island Cove	31	38	57	76	19	Queen Annes	50	141	227
Island Creek (Patuxent River)	19	38	24	76	33	Calvert	29	74	126
Island Creek (Choptank River)	34, 35	38	40	76	08	Talbot	115	231	206
Island Point	30	39	08	76	10	Kent	48	115	240
Island Shore	24	38	08	76	29	St. Marys	70	168	147
Jackass	3	38	53	76	31	Anne Arundel	77	61	116
Jacks Bay	19	38	25	76	35	Calvert	32	73	126
Jacks Marsh	19	38	26	76	37	Calvert	33	72	126
Jamaica Point	35	38	37	75	59	Talbot	131	242	206
James Point	36	38	33	76	22	Dorchester	65	122	199
Jane	41	38	12	76	01	Dorchester	81	151	198
Joe Harris Flats	34	38	44	76	13	Talbot	83	215	207
Joes Lumps	26	38	19	76	51	Charles	7	48	132
Johnson Island	31	38	56	76	17	Queen Annes	58	143	227
Johnston	34	38	44	76	08	Talbot	109	229	207
Jones (Little Choptank River)	37	38	33	76	12	Dorchester	46	136	197
Jones St. Marys River)	24	38	10	76	26	St. Marys	46	159	146
Jones Hole	31	38	56	76	19	Queen Annes	48	140	227
Judys Point	34	38	45	76	17	Talbot	75	212	208
Juniper	32	38	53	76	09	Talbot	1	193	209
Jutland	24	38	07	76	25	St. Marys	38	151	145
Kedge Straits	6	38	04	76	05	Somerset	35	65	183
Kennedy	24	38	10	76	26	St. Marys	49	159	146
Kennel	15	38	04	75	17	Worcester	20	56	246
Kent Island Narrows	29	38	58	76	15	Queen Annes	25	120	226
Kent Point	31	38	51	76	23	Queen Annes	33	131	228

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		°	′	°	′				
Key	26	38	22	76	51	St. Marys	123	186	149
Kings Creek	30	39	08	76	09	Kent	51	116	240
Kirby	35	38	36	76	05	Talbot	122	238	210
Kitts Creek East	10	37	58	75	42	Somerset	33	79	182
Kitts Creek West	10	37	58	75	43	Somerset	32	78	182
Kitts Marsh	19	38	27	76	37	Calvert	35	71	126
La Grande	20	38	18	76	27	St. Marys	19	141	145
La Trappe	35	38	38	76	07	Talbot	119	236	206
Lakes Cove	40	38	17	76	09	Dorchester	93	144	198
Lambertson Landing	14	38	12	75	15	Worcester	4	50	246
Lancaster	26	38	17	76	50	Charles	12	50	132
Langley Hollow	24	38	09	76	26	St. Marys	43	156	146
Le Compte	35	38	37	76	09	Dorchester	16	117	199
Levin Tump	15	38	01	75	16	Worcester	25	58	246
Light House	34, 35, 37	38	39	76	11	Talbot	91	219	210
Light House Lump	20	38	19	76	25	Calvert	17	82	126
Limekiln	30	39	05	76	12	Kent	40	112	240
Little Choptank	36, 37	38	31	76	19	Dorchester	59	126	196
Little Cove Point	20	38	21	76	23	Calvert	10	85	127
Little Neck (Swan Creek)	28, 29	39	08	76	16	Kent	10	101	241
Little Neck (Harris Creek)	33, 34	38	46	76	18	Talbot	60	205	208
Little Pollard	37	38	32	76	16	Dorchester	37	132	196
Little Sandy	2	38	59	76	28	Anne Arundel	22	37	114
Lodges	33	38	45	76	19	Talbot	57	203	208
Logans Hill	37	38	39	76	13	Dorchester	20	129	199
Long (Chesapeake Bay)	4	38	45	76	32	Anne Arundel	89	64	117
Long (St. George River)	24	38	09	76	31	St. Marys	78	173	147
Long Point (Chester River)	29, 30	39	00	76	14	Queen Annes	23	119	227
Long Point (Eastern Bay)	31	38	52	76	20	Queen Annes	34	132	226
Long Point (Pocomoke Sound)	9	37	57	75	49	Somerset	29	77	182
Long Point (Miles River)	34	38	46	76	11	Talbot	14	234	209
Long Point Woods	34	38	42	76	16	Talbot	67	207	207
Long Shoal	11	38	18	75	55	Wicomico	7	44	189
Louis Cove	34	38	42	76	09	Talbot	100	224	206
Love Point	29	39	03	76	18	Queen Annes	29	117	228
Lovers Point	25	38	16	76	39	St. Marys	84	175	147
Lower Forrest	19	38	25	76	36	St. Marys	7	135	145
Lower Newfoundland	41	38	19	75	55	Dorchester	120	160	195
Lower Steps	16	38	38	76	31	Calvert	3	65	127
Lower Thoroughfare	40	38	15	76	09	Dorchester	88	146	198
Lows Point	31, 33	38	48	76	20	Talbot	37	178	210
Lulu	3	38	53	76	27	Anne Arundel	69	55	117
Lumps East of Craighill Channel	1	39	07	76	22	Anne Arundel	3	26	117

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		Latitude		Longitude					
		°	′	°	′				
McKay	21	38	10	76	20	St. Marys	28	146	149
McKeils Point	37	38	33	76	14	Dorchester	42	134	196
Macks Hollow	19	38	29	76	39	Calvert	38	70	127
Man O'War Shoals	27	39	11	76	22	Baltimore	3	34	103
Manahowic Creek	26	38	19	76	50	St. Marys	118	189	149
Mares Point	34	38	42	76	09	Talbot	99	224	206
Marshall	36, 37, 38	38	29	76	20	Dorchester	64	123	197
Marshy	34	38	43	76	09	Talbot	105	227	207
Marshy Island	7	38	07	75	53	Somerset	18	70	182
Marshy Point	3	38	54	76	29	Anne Arundel	67	48	115
Martin Point	14, 15	38	05	75	18	Worcester	15	54	246
Marumsco	10	37	57	75	44	Somerset	31	78	182
Marys Delight	31	38	49	76	19	Talbot	36	178	210
Mattapex	31	38	55	76	20	Queen Annes	42	136	227
Matthews	34, 35	38	40	76	08	Talbot	116	232	206
Mears (Calvert Co.)	19, 20	38	22	76	30	Calvert	27	75	126
Mears (St. Marys Co.)	19, 20	38	22	76	30	St. Marys	12	137	145
Melton Point	30	39	08	76	04	Kent	63	121	239
Melvin	32	38	53	76	10	Queen Annes	95	166	225
Middle Block	31	38	54	76	18	Queen Annes	53	134	226
Middleground	12	38	14	75	55	Wicomico	11	46	189
Middleground Lump	24	38	08	76	27	St. Marys	65	155	146
Milbourne Shore	24	38	08	76	29	St. Marys	71	169	147
Mileys Creek	25	38	16	76	43	St. Marys	99	183	148
Mill Dam	35	38	36	75	59	Talbot	130	242	206
Mill Hill	32	38	54	76	13	Queen Annes	76	156	226
Mill Point (Chesapeake Bay)	36, 37	38	36	76	18	Dorchester	28	121	199
Mill Point (Harris Creek)	33	38	45	76	18	Talbot	54	202	208
Millers Island	27	39	13	76	21	Baltimore	2	34	103
Mills	32	38	52	76	12	Queen Annes	83	160	225
Mills East	26	38	20	76	51	St. Marys	120	188	149
Mills West	26	38	20	76	51	Charles	6	47	132
Millstone	20	38	18	76	26	St. Marys	20	141	145
Mink Tump	15	38	04	75	19	Worcester	17	55	246
Mitchells Bluff Buoy	28	39	13	76	16	Kent	5	97	241
Mouldy Creek	25	38	16	76	38	St. Marys	85	174	147
Mouth of Creek	24	38	07	76	28	St. Marys	124	153	146
Mouth of River	26	38	15	76	49	St. Marys	111	192	148
Mount Vernon Wharf	5	38	15	75	48	Somerset	1	63	183
Mountain Point	1, 2	39	05	76	25	Anne Arundel	4	27	117
Mud (Dorchester Co.)	41	38	10	76	00	Dorchester	80	151	198
Mud (Chester River)	29, 30	39	01	76	14	Kent	28	107	239
Mud (Somerset Co.)	5	38	09	76	00	Somerset	9	60	183
Muddy Drain	29	39	08	76	16	Kent	17	102	240
Mulberry Point	34	38	45	76	15	Talbot	71	209	207
Mummys Cove	30	39	07	76	06	Queen Annes	4	129	227
Mussel Hole	7	38	04	75	59	Somerset	12	66	183
Neale	19, 20	38	23	76	31	St. Marys	11	137	145

ALPHABETICAL INDEX TO NATURAL OYSTER BARS—Continued.

Name of oyster bar	Chart number of Maryland Oyster Chart on which shown	Approximate geographic location				County in which located	County index number by which indicated on Index Chart	Page of U. S. Coast and Geodetic county publication of Survey of Oyster Bars on which boundaries are defined	Page of Fourth Report of Maryland Shell Fish Commission on which characteristics are described
		Latitude		Longitude					
		°	′	°	′				
New	41	38	15	75	56	Dorchester	115	158	195
New Discovery	39	38	18	76	17	Dorchester	71	139	199
Newport	13, 14	38	12	75	14	Worcester	3	50	246
Newtown Flats	25	38	14	76	43	St. Marys	93	181	148
Nichols	30	39	05	76	11	Kent	42	113	239
Nine Acres	36, 37	38	31	76	18	Dorchester	58	126	196
Norman	40	38	15	76	07	Dorchester	87	147	198
Normans Fine Eyes	31, 32	38	55	76	17	Queen Annes	60	145	227
Normans Marsh	32	38	56	76	15	Queen Annes	64	152	226
Northwest (Kent Co)	30	39	08	76	05	Kent	64	121	239
Northwest (Queen Annes Co)	30	39	09	76	05	Queen Annes	1	130	227
Northwest Middleground	42	38	07	76	11	Dorchester	76	160	199
Old Field	30	39	05	76	10	Queen Annes	14	124	227
Old Fort	2	38	59	76	28	Anne Arundel	21	36	114
Old Hare	24	38	06	76	25	St. Marys	35	149	145
Old House	41	38	18	76	02	Dorchester	104	156	195
Old House Point	34	38	43	76	08	Talbot	102	225	207
Old Lump	20	38	19	76	25	Calvert	16	82	126
Old Orchard (Tangier Sound)	5	38	10	75	58	Somerset	8	60	183
Old Orchard (Miles River)	34	38	47	76	12	Talbot	18	232	209
Old Woman	3	38	54	76	28	Anne Arundel	49	47	117
Old Womans Patch	11	38	18	75	54	Wicomico	5	43	189
Old Wreck	25	38	14	76	44	St. Marys	102	181	148
Orem	34	38	43	76	09	Talbot	107	228	207
Outer Hole	41	38	18	75	55	Dorchester	119	159	195
Outer Magothy	2	39	03	76	24	Anne Arundel	12	30	117
Outer Round Point	3	38	55	76	30	Anne Arundel	65	50	115
Oyster Creek (Little Choptank River)	36, 37, 38	38	30	76	20	Dorchester	63	124	197
Oyster Creek (Kedge Straits)	6	38	04	76	04	Somerset	34	65	183
Oyster Shell Point	35	38	35	76	00	Dorchester	6	113	197
Paca	32	38	53	76	11	Queen Annes	86	161	225
Pagan	24	38	12	76	27	St. Marys	57	164	146
Park	2	39	05	76	29	Anne Arundel	8	29	114
Parker Moore	20	38	21	76	24	Calvert	11	84	127
Parkers Wharf	19	38	25	76	34	Calvert	31	73	126
Parsons Island	32	38	54	76	16	Queen Annes	61	146	227
Parsons Island Narrows	32	38	55	76	15	Queen Annes	63	155	226
Pattison	37	38	34	76	11	Dorchester	47	137	197
Paul	40	38	16	76	08	Dorchester	90	146	198
Paw Paw Hollow	25	38	16	76	39	St. Marys	87	175	147
Pea Hill	31	38	55	76	19	Queen Annes	46	139	227
Peach Hill	2	39	05	76	27	Anne Arundel	6	28	114
Peach Orchard	2	39	00	76	29	Anne Arundel	25	38	114
Peanut	39, 40	38	21	76	12	Dorchester	98	142	198
Peanut Hill	36, 37	38	33	76	19	Dorchester	32	127	196

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Name of oyster bar	Chart number of Maryland Oyster Chart on which shown	Approximate geographic location				County in which located	County index number by which indicated on Index Chart	Page of U. S. Coast and Geodetic county publication of Survey of Oyster Bars on which boundaries are defined	Page of Fourth Report of Maryland Shell Fish Commission on which characteristics are described
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		°	′	°	′				
Pecks Point	34	38	42	76	10	Talbot	98	223	206
Persimmon	2	39	03	76	26	Anne Arundel	11	30	114
Persimmon Tree	32	38	51	76	13	Queen Annes	81	159	225
Peterson (Calvert Co.)	19, 20	38	24	76	31	Calvert	28	75	126
Peterson (St. Marys Co.)	19, 20	38	24	76	32	St. Marys	10	137	145
Philibys	9	37	57	75	55	Somerset	24	74	183
Philips	30	39	08	76	09	Kent	53	117	240
Phoenix Shoal	28	39	17	76	13	Kent	1	95	241
Pin Cushion	34	38	44	76	12	Talbot	84	215	207
Pine Tree	31	38	54	76	20	Queen Annes	39	135	226
Piney Island East	7	38	04	75	54	Somerset	21	72	183
Piney Island Swash	7	38	07	75	55	Somerset	14	68	182
Piney Island West	7	38	05	75	57	Somerset	13	67	183
Piney Point (Kent Co.)	30	39	03	76	12	Kent	36	110	239
Piney Point (Queen Annes Co.)	30	39	03	76	12	Queen Annes	18	122	227
Pleasant Hill	33, 34, 36	38	41	76	17	Talbot	47	198	210
Plum Point	16, 17	38	37	76	29	Calvert	4	66	127
Point (Severn River)	2	39	02	76	32	Anne Arundel	29	42	114
Point (Fishing Bay)	41	38	19	76	01	Dorchester	109	156	195
Point Look-in	22	38	05	76	19	St. Marys	33	148	149
Point Lookout	22, 23	38	03	76	19	St. Marys	34	149	149
Pompes	34	38	45	76	16	Talbot	73	211	208
Pond Marsh	31	38	56	76	19	Queen Annes	49	140	227
Pone	33	38	42	76	22	Talbot	41	195	210
Poplar	30	39	00	76	11	Queen Annes	21	121	227
Poplar Island	31, 33	38	46	76	23	Talbot	38	177	210
Poplar Island Narrows	33	38	46	76	21	Talbot	39	193	208
Poplar Point	32	38	53	76	10	Talbot	2	192	209
Poppin Point	2	39	02	76	33	Anne Arundel	35	43	115
Possum Point	30	39	05	76	07	Queen Annes	13	127	228
Potato Hill	3	38	52	76	31	Anne Arundel	81	57	116
Prickly Point	7	38	05	75	54	Somerset	20	72	183
Priest	24	38	09	76	26	St. Marys	44	157	146
Prison Point	19	38	27	76	37	Calvert	34	72	126
Prospect	32	38	57	76	14	Queen Annes	72	150	226
Prospect Point	32	38	53	76	12	Queen Annes	79	157	226
Punch Island Creek	38	38	25	76	19	Dorchester	67	139	199
Purdy Flats	3	38	56	76	31	Anne Arundel	62	52	115
Purnell Hammock	14	38	06	75	17	Worcester	11	53	246
Rabbit Island	34	38	46	76	17	Talbot	61	205	208
Race Horse (Queen Annes Co.)	32	38	52	76	11	Queen Annes	93	165	225
Race Horse (Talbot Co.)	32	38	52	76	11	Talbot	4	191	209
Ragged Point	36, 37	38	32	76	18	Dorchester	36	127	196
Ragged Point Flats	36, 37	38	33	76	17	Dorchester	35	128	196
Railway	25	38	15	76	42	St. Marys	89	177	147
Raleys Shore	24	38	09	76	26	St. Marys	45	158	146
Rattlesnake	14, 15	38	06	75	18	Worcester	14	54	246

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		°	′	°	′				
Red Buoy	36, 37	38	39	76	18	Dorchester	23	119	199
Red Sector	41	38	13	76	02	Dorchester	83	150	198
Reed Point	25	38	17	76	43	St. Marys	96	184	148
Reeds	30	39	04	76	10	Queen Annes	16	123	227
Richland	40	38	13	76	08	Dorchester	74	148	199
Rich Neck	31	38	52	76	17	Talbot	33	180	209
Ringold Middle-ground	31	38	54	76	18	Queen Annes	44	138	227
Roaring Point, East	11, 12	38	16	75	56	Wicomico	10	45	189
Roaring Point, West	41	38	16	75	56	Dorchester	117	159	195
Robins Cove	30	39	04	76	10	Queen Annes	15	123	227
Robins Marsh	14	38	09	75	15	Worcester	8	52	246
Rock Creek	5	38	12	75	55	Somerset	5	62	182
Rockhall	28, 29	39	09	76	15	Kent	14	100	241
Rock Point (South River)	3	38	55	76	31	Anne Arundel	63	51	115
Rock Point (Wicomico River)	26	38	16	76	50	Charles	13	51	132
Rock Point, Lower	2	39	01	76	31	Anne Arundel	27	41	114
Rock Point, Upper	2	39	03	76	33	Anne Arundel	32	45	115
Rocky Beach	21	38	12	76	22	St. Marys	26	144	149
Rollin	24	38	09	76	30	St. Marys	75	171	147
Rooks	31	38	57	76	19	Queen Annes	51	142	227
Rosecroft Hollow	24	38	10	76	26	St. Marys	50	162	146
Ross	37	38	33	76	15	Dorchester	40	134	197
Rough Point	3	38	57	76	33	Anne Arundel	59	54	115
Round Bay	2	39	03	76	33	Anne Arundel	33	44	115
Royston	34	38	41	76	14	Talbot	87	217	210
Ruler Flats	3	38	55	76	29	Anne Arundel	50	49	115
Russell	26	38	20	76	51	St. Marys	119	188	149
St. Catherine	26	38	15	76	47	St. Marys	108	194	148
St. Clement Entrance	25	38	14	76	44	St. Marys	92	180	147
St. George	24	38	08	76	28	St. Marys	67	167	147
St. Inigoes, North	24	38	10	76	25	St. Marys	48	160	146
St. Inigoes, South	24	38	10	76	25	St. Marys	47	160	147
St. Jerome	22	38	07	76	20	St. Marys	30	147	149
St. Margaret	26	38	15	76	49	St. Marys	112	192	148
Saltwork (Little Choptank River)	37	38	32	76	12	Dorchester	49	137	197
Saltworks (Severn River)	2	39	01	76	31	Anne Arundel	38	41	115
Sandgates	19	38	25	76	37	St. Marys	5	134	145
Sand Lump	11	38	19	75	54	Wicomico	3	43	189
Sand Shoal	41	38	14	76	00	Dorchester	101	153	195
Sand Spit	2	39	00	76	26	Anne Arundel	17	33	114
Sand Thistle	30	39	06	76	11	Kent	44	113	240
Sands	33	38	41	76	18	Talbot	46	197	210
Sandy Hill	35	38	36	76	07	Dorchester	13	115	199
Sandy Hill Lumps	35	38	36	76	06	Dorchester	12	115	199
Sandy Point (Prospect Bay)	32	38	58	76	15	Queen Annes	69	149	226
Sandy Point (Manokin River)	7	38	08	75	48	Somerset	16	68	182

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		°	′	°	′				
Sandy Point (Chincoteague Bay)	14	38	10	75	15	Worcester	7	51	246
Sandy Point Lumps	20	38	19	76	27	Calvert	22	80	126
Sandy Point, North	2	39	02	76	23	Anne Arundell	13	31	116
Sandy Point, South	2	39	00	76	24	Anne Arundel	14	31	116
Saunders	3	38	53	76	29	Anne Arundel	68	55	117
Saw Mill Creek	32	38	55	76	13	Queen Annes	75	155	226
Scarboro Creek	14	38	09	75	16	Worcester	9	52	246
Scraping Line	35	38	35	76	04	Talbot	123	239	210
Scotland	32	38	49	76	13	Talbot	21	186	209
Sea Turtle	32	38	51	76	15	Talbot	27	183	209
Second Point	32, 34	38	47	76	12	Talbot	12	187	209
Sedge Marsh	31	38	51	76	18	Talbot	34	179	209
Sedge Point	24	38	06	76	26	St. Marys	40	153	146
Seminary	24	38	11	76	26	St. Marys	52	163	146
Seths Point	33	38	45	76	18	Talbot	56	203	208
Sharkfin Shoal	41	38	13	76	00	Dorchester	113	152	198
Sharp	33, 36, 37	38	37	76	21	Talbot	44	196	210
Sharp Point	2	39	00	76	31	Anne Arundel	39	40	115
Shaving Pile	22	38	07	76	18	St. Marys	31	147	149
Shaw Bay Hill	32	38	51	76	11	Talbot	5	191	209
Shawns Wharf	32	38	53	76	09	Queen Annes	97	167	225
Sheep (Kent Co.)	30	39	07	76	07	Kent	58	119	239
Sheep (Queen Annes Co)	30	39	06	76	07	Queen Annes	5	128	227
Sheep (Chincoteague Bay)	15	38	04	75	19	Worcester	18	55	246
Shehan	24	38	09	76	30	St. Marys	77	172	147
Shell Pile	20	38	19	76	27	Calvert	20	78	126
Ship Point	30	39	05	76	07	Queen Annes	12	126	228
Shippen Creek	30	39	07	76	06	Kent	60	120	239
Shippen Hole	32	38	51	76	12	Queen Annes	82	159	225
Shipping Creek	31	38	54	76	20	Queen Annes	40	137	227
Shipping Point	26	38	16	76	50	Charles	14	52	132
Shoal Creek	35	38	34	76	03	Dorchester	8	113	197
Short Point	24	38	12	76	27	St. Marys	55	166	146
Side Shoal	29, 30	39	01	76	14	Kent	27	107	239
Sillery Bay	1	39	05	76	27	Anne Arundel	7	28	114
Silver Spring	26	38	14	76	47	St. Marys	106	195	148
Simmons	20	38	20	76	24	Calvert	14	83	127
Slaughter Creek	36, 37, 38	38	30	76	16	Dorchester	56	125	196
Smith Creek	24	38	07	76	25	St. Marys	36	150	145
Smith Point	33	38	46	76	18	Talbot	59	204	208
Smoke Point	40	38	18	76	12	Dorchester	95	143	198
Sothoron	19	38	30	76	40	St. Marys	2	133	145
South Point	13, 14	38	12	75	13	Worcester	1	49	246
Southeast Middleground (Patuxent River)	20	38	19	76	26	Calvert	18	81	126
Southeast Middleground (Chesapeake Bay)	42	38	06	76	10	Dorchester	77	161	199
Southwest	14	38	09	75	16	Worcester	10	53	246
Southwest Middleground	6, 8	38	00	76	09	Somerset	36	65	183

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		° ′	° ′				
Spaniard Point	30	39 06	76 09	Queen Annes	7	127	227
Spar Buoy	35	38 38	75 59	Talbot	132	242	206
Spedden	36, 37	38 38	76 19	Dorchester	24	119	199
Spencers	20	38 19	76 29	St. Marys	16	139	145
Spout	19	38 31	76 40	Calvert	41	69	127
States Bank	35	38 34	76 02	Dorchester	7	113	197
Stevens	31	38 55	76 19	Queen Annes	47	139	227
Stewart Island	34	38 42	76 10	Talbot	96	222	206
Stoddard	26	38 22	76 51	Charles	4	46	132
Stone (Pocomoke Sound)	9	37 56	75 48	Somerset	27	76	182
Stone (Chesapeake Bay)	33, 36	38 39	76 22	Talbot	42	195	210
Stone Church	34, 35	38 41	76 11	Talbot	94	221	206
Stone Pile	39	38 20	76 17	Dorchester	68	139	199
Stone Wharf	32	38 52	76 11	Queen Annes	92	164	225
Stony	25	38 16	76 40	St. Marys	88	176	147
Stony Hollow	3	38 53	76 31	Anne Arundel	78	60	116
Straits	24	38 08	76 30	St. Marys	72	170	147
Striking Marsh	15	38 04	75 16	Worcester	24	57	246
Strong Bay	29	39 01	76 17	Queen Annes	28	117	227
Sugar Loaf	35	38 34	76 02	Talbot	126	240	206
Susquehanna	37	38 31	76 16	Dorchester	53	132	196
Swan	24	38 09	76 30	St. Marys	74	171	147
Swan Creek	28	39 09	76 15	Kent	15	100	241
Swan Point	28, 29	39 08	76 18	Kent	8	99	241
Swan Reef	3	38 55	76 29	Anne Arundel	51	49	115
Swash	20	38 19	76 27	Calvert	19	80	126
Sycamore	32	38 50	76 12	Talbot	10	188	209
Tanners Patch	35	38 37	75 59	Dorchester	4	112	197
Tar Bay	39	38 20	76 15	Dorchester	69	141	196
Tarkhill	24	38 09	76 30	St. Marys	73	170	147
Tavern Creek	28, 29	39 09	76 16	Kent	9	102	241
Tea Table	27	39 13	76 19	Baltimore	1	33	103
Teague	26	38 32	76 40	Charles	1	53	132
Tenacres	21	38 11	76 21	St. Marys	27	145	149
The Black Buoy (Choptank River)	35	38 34	76 02	Talbot	125	239	206
The Haven	28, 29	39 09	76 15	Kent	13	101	241
Thomas (Calvert Co.)	19	38 28	76 39	Calvert	36	71	126
Thomas (St. Marys Co.)	19	38 27	76 38	St. Marys	4	134	145
Thomas Point North	3	38 55	76 26	Anne Arundel	47	46	116
Thomas Point South	3	38 54	76 27	Anne Arundel	48	47	116
Thompson Creek	24	38 09	76 27	St. Marys	61	158	146
Thompsons	31	38 57	76 19	Queen Annes	52	143	227
Thorough	41	38 19	76 02	Dorchester	105	157	195
Three Sisters	3	38 51	76 29	Anne Arundel	87	56	117
Thunder and Lightning	3	38 56	76 31	Anne Arundel	55	52	115
Tidemill	32	38 49	76 14	Talbot	22	185	209
Tilghman Wharf	33	38 42	76 19	Talbot	50	200	208
Tilghmans Point	31, 32	38 52	76 16	Talbot	32	180	209

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		°	′	°	′				
Tobacco Stick	37	38	32	76	14	Dorchester	52	133	196
Toby	15	38	04	75	18	Worcester	22	57	246
Todd Point	37	38	39	76	15	Dorchester	21	130	199
Tolchester Lump	28	39	13	76	15	Kent	4	97	241
Tolly Point	2, 3	38	57	76	27	Anne Arundel	45	34	116
Town	37	38	33	76	13	Dorchester	43	135	196
Town Creek	20	38	19	76	29	St. Marys	17	140	145
Town Point (Corsica River)	30	39	05	76	08	Queen Annes	9	125	228
Town Point (Tred Avon River)	34	38	42	76	11	Talbot	95	222	206
Traces Hollow	2	39	00	76	30	Anne Arundel	26	40	114
Travers	36, 38	38	30	76	22	Dorchester	66	123	199
Trippe	34	38	43	76	07	Talbot	103	226	207
Tubbmans Drain	39, 40	38	21	76	13	Dorchester	99	142	198
Tucker	3	38	51	76	32	Anne Arundel	83	59	116
Turkey Neck	33	38	44	76	18	Talbot	53	201	208
Turkey Point (South River)	3	38	55	76	30	Anne Arundel	66	48	115
Turkey Point (Eastern Bay)	31	38	54	76	18	Queen Annes	54	134	226
Turnrow	33, 34	38	43	76	18	Talbot	63	199	208
Turpin	14	38	10	75	15	Worcester	6	51	246
Turtle Back (Choptank River)	35	38	36	76	06	Dorchester	11	114	199
Turtle Back (Miles River)	32	38	51	76	14	Talbot	28	182	209
Turtle Egg Island	5, 7	38	07	76	00	Somerset	10	59	183
Umphasis	2	39	04	76	29	Anne Arundel	9	29	114
Under the Bar	29	39	06	76	16	Kent	20	104	240
Under the Cliffs	20	38	21	76	24	Calvert	12	84	127
Under the Gums	3	38	56	76	27	Anne Arundel	46	45	116
Upper Forrest	19	38	25	76	36	St. Marys	6	135	145
Upper Harris Creek	31, 32, 34	38	47	76	16	Talbot	62	181	208
Upper Hill	32	38	52	76	15	Talbot	31	181	209
Upper Newfoundland	41	38	19	75	54	Dorchester	121	160	195
Upper Stake	11	38	20	75	53	Wicomico	1	42	189
Upper Steps	16	38	41	76	31	Calvert	2	65	127
Wade	2	39	00	76	30	Anne Arundel	40	39	115
Wades Point	31	38	50	76	18	Talbot	35	179	209
Walnut	33	38	46	76	18	Talbot	58	204	208
Walter White	32	38	57	76	15	Queen Annes	67	150	226
Ware (Chesapeake Bay)	39, 40	38	17	76	13	Dorchester	73	140	199
Ware (Langford Creek)	30	39	09	76	09	Kent	54	117	240
Ware Sands	41	38	13	76	02	Dorchester	100	152	195
Waterloo	26	38	14	76	47	St. Marys	105	195	148
Watermelon Point	34	38	45	76	07	Talbot	111	229	207
Watkins	9	37	56	75	48	Somerset	28	76	182
Weems Lower	2	39	00	76	29	Anne Arundel	42	38	115
Weems Upper	2	39	00	76	30	Anne Arundel	41	39	115
Welch	2	39	05	76	27	Anne Arundel	5	28	114
Well Cove	32	38	58	76	15	Queen Annes	71	148	226

ALPHABETICAL INDEX TO NATURAL OYSTER BARS—Continued.

Name of oyster bar	Chart number of Maryland Oyster Chart on which shown	Approximate geographic location				County in which located	County index number by which indicated on Index Chart	Page of U. S. Coast and Geodetic county publication of Survey of Oyster Bars on which boundaries are defined	Page of Fourth Report of Maryland Shell Fish Commission on which characteristics are described
		Latitude		Longitude					
		°	′	°	′				
Well Point	34	38	45	76	16	Talbot	72	210	208
West End	32	38	50	76	13	Talbot	24	184	209
West St. Marys	24	38	11	76	27	St. Marys	58	163	146
Wetipquin	11	38	20	75	53	Wicomico	2	42	189
Whetstone	32	38	52	76	10	Queen Annes	94	165	225
Whitehall	2	38	58	76	27	Anne Arundel	19	33	114
Whitehall Creek	2	39	00	76	26	Anne Arundel	18	32	114
White Horse	28, 29	39	09	76	15	Kent	12	100	241
White Marsh	29	39	06	76	15	Kent	21	104	240
White Point	26	38	17	76	49	St. Marys	116	190	148
White Point Hollow	26	38	17	76	49	St. Marys	115	190	149
White Rock	15	38	03	75	17	Worcester	26	58	246
White Wood	39	38	19	76	14	Dorchester	70	141	196
Wickes Beach	29	39	02	76	16	Kent	25	106	239
Wicomico Lumps	26	38	21	76	51	Charles	5	47	132
Wicomico Middleground	26	38	18	76	50	Charles	10	49	132
Wild Cherry Tree	33	38	42	76	18	Talbot	49	199	208
Wild Ground (Eastern Bay)	31	38	54	76	19	Queen Annes	38	135	226
Wild Ground (Miles River)	32	38	49	76	13	Talbot	11	188	209
Willeys Island	34	38	45	76	14	Talbot	85	216	207
Willeys Island Flats	34	38	45	76	14	Talbot	77	212	207
Willis	34, 35	38	40	76	09	Talbot	114	230	206
Willow Bottom	30	39	05	76	11	Kent	41	112	239
Wilson Shoals	11	38	18	75	55	Wicomico	9	45	189
Wilsons Point	30	39	09	76	11	Kent	50	116	240
Winders Bank	32	38	52	76	10	Talbot	3	192	209
Windmill (Wicomico River)	26	38	19	76	51	Charles	8	48	132
Windmill (Honga River)	40	38	16	76	10	Dorchester	91	145	198
Windmill Flats	29	39	08	76	16	Kent	16	102	240
Wingate	5	38	14	75	52	Somerset	2	63	183
Wreck Buoy	2	38	58	76	26	Anne Arundel	16	34	116
Wroten Island	39, 40	38	19	76	12	Dorchester	96	143	198
Wye Island	32	38	53	76	11	Queen Annes	88	162	225
Wye River Middleground	32	38	53	76	11	Queen Annes	90	163	225
Wye Town	32	38	51	76	12	Talbot	7	190	209

NATURAL OYSTER BARS.

NUMERICAL INDEX.

NOTE.—See Alphabetical Index for other references relating to natural oyster bars.

ANNE ARUNDEL COUNTY.

County index number indicating oyster bars on Index Chart	Name of oyster bar	County index number indicating oyster bars on Index Chart	Name of oyster bar	County index number indicating oyster bars on Index Chart	Name of oyster bar
1	Bodkin Point North	33	Round Bay	63	Rock Point (South River)
2	Bodkin Point South	34	Big Island		
3	Lumps East of Craighill Channel	35	Poppin Point	64	Inner Round Point
		36	Brewer (Severn River)	65	Outer Round Point
4	Mountain Point	37	Clem Point	66	Turkey Point (South River)
5	Welch	38	Saltworks (Severn River)		
6	Peach Hill			67	Marshy Point
7	Sillery Bay	39	Sharp Point	68	Saunders
8	Park	40	Wade	69	Lulu
9	Umphasis	41	Weems Upper	70	Dutchman
10	Black	42	Weems Lower	71	Dutchman Hollow
11	Persimmon	43	Horn Point (Severn River)	72	Cherry (Rhode River)
12	Outer Magothy			73	Buce
13	Sandy Point North	44	Chinks Point	74	Flat Island
14	Sandy Point South	45	Tolly Point	75	High Island
15	Hackett Point	46	Under The Gums	76	Bolston Bank
16	Wreck Buoy	47	Thomas Point North	77	Jackass
17	Sand Spit	48	Thomas Point South	78	Stony Hollow
18	Whitehall Creek	49	Old Woman	79	Brice Fence
19	Whitehall	50	Ruler Flats	80	Cheston Point
20	Inside Greenbury Point	51	Swan Reef	81	Potato Hill
		52	Hill Point East	82	Barren Neck
21	Old Fort	53	Hill Point (Severn River)	83	Tucker
22	Little Sandy			84	Cedar Point (West River)
23	Creces Cove	54	Fox Point		
24	Ferry Point	55	Thunder and Lightning.	85	Collins Flats
25	Peach Orchard			86	Curtis
26	Traces Hollow	56	Aberdeen	87	Three Sisters
27	Rock Point Lower	57	Duvall	88	Bay Shore
28	Chase	58	Beard Point	89	Long (Chesapeake Bay)
29	Point (Severn River)	59	Rough Point		
30	Aisquith Creek	60	Almshouse	90	Fairhaven
31	Arnold Point	61	Brewer (South River)	91	Holland Point (Chesapeake Bay)
32	Rock Point Upper	62	Purdy Flats		

BALTIMORE COUNTY.

1	Tea Table	2	Millers Island	3	Man-O'-War Shoals

NUMERICAL INDEX TO NATURAL OYSTER BARS—Continued.

CALVERT COUNTY.

County index number indicating oyster bars on Index Chart	Name of oyster bar	County index number indicating oyster bars on Index Chart	Name of oyster bar	County index number indicating oyster bars on Index Chart	Name of oyster bar
1	Hog Point	16	Old Lump	29	Island Creek (Patuxent River)
2	Upper Steps	17	Light House Lump	30	Broome Island
3	Lower Steps	18	Southeast Middleground (Patuxent River)	31	Parkers Wharf
4	Plum Point			32	Jacks Bay
5	Daddie Dare			33	Jacks Marsh
6	Governors Run	19	Swash	34	Prison Point
7	Emanuel	20	Shell Pile	35	Kitts Marsh
8	Flag Pond	21	Cherry Tree (Patuxent River)	36	Thomas (Calvert County)
9	Cove Point Bight				
10	Little Cove Point	22	Sandy Point Lumps		
11	Parker Moore	23	Back of Island	37	Broad Neck (Calvert County)
12	Under The Cliffs	24	Barn Gates		
13	Chinese Muds (Calvert County)	25	Hungerford Hollow	38	Macks Hollow
		26	Hellen	39	Buzzard Island
14	Simmons	27	Mears (Calvert County)	40	Holland Point (Patuxent River)
15	Carroll Muds (Calvert County)	28	Peterson (Calvert County)	41	Spout

CHARLES COUNTY.

1	Teague	7	Joes Lumps	11	Charleston Creek
2	Elbow	8	Windmill (Wicomico River)	12	Lancaster
3	Carpenters Yard			13	Rock Point (Wicomico River)
4	Stoddard	9	Fenwick		
5	Wicomico Lumps	10	Wicomico Middleground	14	Shipping Point
6	Mills West			15	Cobb Point

DORCHESTER COUNTY.

1	Drum Point (Choptank River)	20	Logans Hill	39	Hudson (Little Choptank River)
		21	Todd Point		
2	Cabin Creek Entrance	22	Cook Point	40	Ross
3	Cabin Creek (Choptank River)	23	Red Buoy	41	Butterpot
		24	Spedden	42	McKeils Point
4	Tanners Patch	25	Diamond (Chesapeake Bay)	43	Town
5	Dixon			44	Cherry Island
6	Oyster Shell Point	26	Dupont	45	Brumell
7	States Bank	27	Brannock	46	Jones (Little Choptank River)
8	Shoal Creek	28	Mill Point (Chesapeake Bay)		
9	Green Marsh			47	Pattison
10	Hambrooks	29	Hills Point (Chesapeake Bay)	48	Barn Point
11	Turtle Back (Choptank River)			49	Saltwork (Little Choptank River)
		30	Hills Point North		
12	Sandy Hill Lumps	31	Hills Point South	50	Fishing Creek
13	Sandy Hill	32	Peanut Hill	51	Grapevine
14	Commander	33	Cow Island	52	Tobacco Stick
15	Horn Point (Choptank River)	34	Bald Eagle (Little Choptank River)	53	Susquehanna
				54	Along Shore
16	Le Compte	35	Ragged Point Flats	55	Hooper
17	Castle Haven Creek	36	Ragged Point	56	Slaughter Creek
18	Castle Haven	37	Little Pollard	57	Bridge
19	Corners Wharf	38	Cason	58	Nine Acres

NUMERICAL INDEX TO NATURAL OYSTER BARS—Continued.

DORCHESTER COUNTY—Continued.

County index number indicating oyster bars on Index Chart	Name of oyster bar	County index number indicating oyster bars on Index Chart	Name of oyster bar	County index number indicating oyster bars on Index Chart	Name of oyster bar
59	Little Choptank	78	Boundary	100	Ware Sands
60	Henpeck	79	Holland Straits	101	Sand Shoal
61	Cators	80	Mud (Dorchester County)	102	Evans (Fishing Bay)
62	Granger			103	Goose Creek
63	Oyster Creek (Little Choptank River)	81	Jane	104	Old House
		82	Bell Buoy	105	Thorough
64	Marshall	83	Red Sector	106	Flat Rock
65	James Point	84	Bloodsworth	107	Half Way Mark
66	Travers	85	Hopkins Cove	108	Hill
67	Punch Island Creek	86	Applegarth	109	Point (Fishing Bay)
68	Stone Pile	87	Norman	110	Bungay
69	Tar Bay	88	Lower Thoroughfare	111	Duck Island
70	White Wood	89	Crab Point	112	Clay Island
71	New Discovery	90	Paul	113	Sharkfin Shoal
72	Horse Point Channel	91	Windmill (Honga River)	114	Frog Point
73	Ware (Chesapeake Bay)			115	New
		92	Hickory	116	Hills and Holes
74	Richland	93	Lakes Cove	117	Roaring Point West
75	Hooper Strait	94	Dark Point	118	Bean Shoal
76	Northwest Middleground	95	Smoke Point	119	Outer Hole
		96	Wroten Island	120	Lower Newfoundland
77	Southeast Middleground (Chesapeake Bay)	97	Gum	121	Upper Newfoundland
		98	Peanut		
		99	Tubbmans Drain		

KENT COUNTY.

1	Phoenix Shoal	25	Wickes Beach	45	Boat House
2	Deep Shoal	26	Dredge Rock	46	Drum Point (Langford Creek)
3	Coal Lump	27	Side Shoal		
4	Tolchester Lump	28	Mud (Chester River)	47	Davis Creek
5	Mitchells Bluff Buoy	29	Ferry (Kent County)	48	Island Point
6	Gales Lumps	30	Buoy Rock	49	Eagle Point (Langford Creek)
7	Hodges	31	Hail Creek		
8	Swan Point	32	Hail Point	50	Wilsons Point
9	Tavern Creek	33	Black Buoy (Chester River)	51	Kings Creek
10	Little Neck (Swan Creek)			52	Bailey
		34	Durdin	53	Philips
11	Deep Landing Hole	35	Belts	54	Ware (Langford Creek)
12	White Horse	36	Piney Point (Kent County)	55	Ebb Point
13	The Haven			56	Cliff
14	Rockhall	37	Bay Bush Point	57	Commegys Bight
15	Swan Creek	38	Bluff Point (Chester River)	58	Sheep (Kent County)
16	Windmill Flats			59	Deep Point
17	Muddy Drain	39	Chester River Middleground	60	Shippen Creek
18	Huntingfield			61	Haddaway
19	Gum Spring	40	Limekiln	62	Hollyday (Kent County)
20	Under The Bar	41	Willow Bottom		
21	White Marsh	42	Nichols	63	Melton Point
22	Hickory Thicket	43	Hudson (Chester River)	64	Northwest (Kent County
23	East Neck Bay				
24	Entrance Lumps	44	Sand Thistle		

NUMERICAL INDEX TO NATURAL OYSTER BARS—Continued.

QUEEN ANNES COUNTY.

County index number indicating oyster bars on Index Chart	Name of oyster bar	County index number indicating oyster bars on Index Chart	Name of oyster bar	County index number indicating oyster bars on Index Chart	Name of oyster bar
1	Northwest (Queen Annes County)	33	Kent Point	67	Walter White
2	Booker Wharf	34	Long Point (Eastern Bay)	68	Hog Island (Prospect Bay)
3	Hollyday (Queen Annes County)	35	Bodkin Shoals	69	Sandy Point (Prospect Bay)
4	Mummys Cove	36	Brick House Hill	70	Buckhorn
5	Sheep (Queen Annes County)	37	Bunker Hill	71	Well Cove
6	Emory Hollow	38	Wild Ground (Eastern Bay)	72	Prospect
7	Spaniard Point	39	Pine Tree	73	Hood
8	Holton Point	40	Shipping Creek	74	Cabin Creek (Prospect Bay)
9	Town Point (Corsica River)	41	Greeves Cove	75	Saw Mill Creek
10	Earle Cove	42	Mattapex	76	Mill Hill
11	Emory Wharf	43	Batts Neck	77	Bugby
12	Ship Point	44	Ringold Middleground	78	Greenwood Creek
13	Possum Point	45	Erickson Sands	79	Prospect Point
14	Old Field	46	Pea Hill	80	Coffee
15	Robins Cove	47	Stevens	81	Persimmon Tree
16	Reeds	48	Jones Hole	82	Shippen Hole
17	Hells Delight	49	Pond Marsh	83	Mills
18	Piney Point (Queen Annes County)	50	Island Cove	84	Hobbs
19	Horse Race	51	Rooks	85	Baxters Hollow
20	Carpenter Island	52	Thompsons	86	Paca
21	Poplar	53	Middle Block	87	Bryan (Wye River)
22	Blunt	54	Turkey Point (Eastern Bay)	88	Wye Island
23	Long Point (Chester River)	55	Bodkin Island	89	Drum Point (Wye River)
24	Flood Point	56	Cox Neck	90	Wye River Middleground.
25	Kent Island Narrows	57	Cedar Island	91	Hess
26	Ferry (Queen Annes County)	58	Johnson Island	92	Stone Wharf
27	Carvel	59	Crab Alley Lumps	93	Race Horse (Queen Annes County)
28	Strong Bay	60	Normans Fine Eyes	94	Whetstone
29	Love Point	61	Parsons Island	95	Melvin
30	Broad Creek	62	Bald Eagle (Eastern Bay)	96	Dividing
31	Brick House	63	Parsons Island Narrows	97	Shawns Wharf
32	Gum Thicket	64	Normans Marsh	98	Granary Point
		65	Bibby		
		66	Dominion		

ST. MARYS COUNTY.

1	Brooks Shallows	10	Peterson (St. Marys County)	19	La Grande
2	Sothoron			20	Millstone
3	Broad Neck (St. Marys County)	11	Neale	21	Deep Point Mud
4	Thomas (St. Marys County)	12	Mears (St. Marys County)	22	Carroll Muds (St. Marys County)
5	Sandgates	13	Half Pone	23	Hog Island (Patuxent River)
6	Upper Forrest	14	Hawks Nest		
7	Lower Forrest	15	Bob Wise	24	Chinese Muds (St. Marys County)
8	Gatton	16	Spencers		
9	Captain Point	17	Town Creek	25	Cedar Point Hollow
		18	Goodwin	26	Rocky Beach

NUMERICAL INDEX TO NATURAL OYSTER BARS—Continued.

ST. MARYS COUNTY—Continued.

County index number indicating oyster bars on Index Chart	Name of oyster bar	County index number indicating oyster bars on Index Chart	Name of oyster bar	County index number indicating oyster bars on Index Chart	Name of oyster bar
27	Tenacres	61	Thompson Creek	92	St. Clement Entrance
28	McKay	62	Carthagena Creek	93	Newtown Flats
29	Fish Hawk	63	Coad	94	Chapel Point
30	St. Jerome	64	Edmund	95	Abell
31	Shaving Pile	65	Middleground Lump	96	Reed Point
32	Butler	66	Cherry (St. Marys River)	97	Guest Marshes
33	Point Look-in			98	Harry Jacks
34	Point Lookout	67	St. George	99	Mileys Creek
35	Old Hare	68	Hurdle	100	Bluff Woods
36	Smith Creek	69	Goose Point (St. George River)	101	Canoe Creek
37	Dunbar			102	Old Wreck
38	Jutland	70	Island Shore	103	Horse
39	Graves	71	Milbourne Shore	104	Dukehart Channel
40	Sedge Point	72	Straits	105	Waterloo
41	Chicken Cock	73	Tarkill	106	Silver Spring
42	Fort	74	Swan	107	Hackley Creek
43	Langley Hollow	75	Rollin	108	St. Catherine
44	Priest	76	Cedar Point (St. George River)	109	Bullock Island
45	Raleys Shore			110	Bullock
46	Jones (St. Marys River)	77	Shehan	111	Mouth of River
47	St. Inigoes South	78	Long (St. George River)	112	St. Margaret
48	St. Inigoes North			113	Bluff Point (Wicomico River)
49	Kennedy	79	Chadwick		
50	Rosecroft Hollow	80	Heron Island Reef	114	Blakistone
51	Gravelly Run	81	Heron Island Sound	115	White Point Hollow
52	Seminary	82	Black Walnut (Bretons Bay)	116	White Point
53	Horseshoe (St. Marys River)			117	Bramleigh Creek
		83	Gough	118	Manahowic Creek
54	Bryan (St. Marys River)	84	Lovers Point	119	Russell
		85	Mouldy Creek	120	Mills East
55	Short Point	86	Island	121	Chaptico Lumps
56	Biscoe	87	Paw Paw Hollow	122	Cohouck
57	Pagan	88	Stony	123	Key
58	West St. Marys	89	Railway	124	Mouth of Creek
59	Cooper Creek	90	Bretons Bay		
60	Coppage	91	Blue Sow		

SOMERSET COUNTY.

1	Mount Vernon Wharf	14	Piney Island Swash	27	Stone (Pocomoke Sound)
2	Wingate	15	Georges		
3	Buoy	16	Sandy Point (Manokin River)	28	Watkins
4	Evans (Wicomico River)			29	Long Point (Pocomoke Sound)
		17	Cormal		
5	Rock Creek	18	Marshy Island	30	Gunby
6	Halls Point	19	Drum Point (Manokin River)	31	Marumsco
7	Haines			32	Kitts Creek West
8	Old Orchard (Tangier Sound)	20	Prickly Point	33	Kitts Creek East
		21	Piney Island East	34	Oyster Creek (Kedge Straits)
9	Mud (Somerset Co.)	22	Harris		
10	Turtle Egg Island	23	Big Annemessex	35	Kedge Straits
11	Chain Shoal	24	Philibys	36	Southwest Middleground
12	Mussel Hole	25	Great Rock		
13	Piney Island West	26	Fox Island	37	Church Creek

NUMERICAL INDEX TO NATURAL OYSTER BARS—Continued.

TALBOT COUNTY.

County index number indicating oyster bars on Index Chart	Name of oyster bar	County index number indicating oyster bars on Index Chart	Name of oyster bar	County index number indicating oyster bars on Index Chart	Name of oyster bar
1	Juniper	43	Clay Bank	86	Fox
2	Poplar Point	44	Sharp	87	Royston
3	Winders Bank	45	Black Walnut (Big Choptank River)	88	Irish Creek
4	Race Horse (Talbot County)	46	Sands	89	Choptank Lumps
5	Shaw Bay Hill	47	Pleasant Hill	90	Benoni
6	Bruffs Island	48	Church Hill	91	Light House
7	Wye Town	49	Wild Cherry Tree	92	Bachelor Point
8	Herring Island	50	Tilghman Wharf	93	Fox Hole
9	East End	51	Change	94	Stone Church
10	Sycamore	52	Eagle Point (Harris Creek)	95	Town Point (Tred Avon River)
11	Wild Ground (Miles River)	53	Turkey Neck	96	Stewart Island
12	Second Point	54	Mill Point (Harris Creek)	97	Goose Neck
13	Gibsons Flats	55	Hunts	98	Pecks Point
14	Long Point (Miles River)	56	Seths Point	99	Mares Point
15	Cox	57	Lodges	100	Louis Cove
16	Barnett	58	Walnut	101	Bamings Cove
17	Bazzles Hill	59	Smith Point	102	Old House Point
18	Old Orchard (Miles River)	60	Little Neck (Harris Creek)	103	Trippe
19	Ash Craft	61	Rabbit Island	104	Bakers Cove
20	Deep Water Point	62	Upper Harris Creek	105	Marshy
21	Scotland	63	Turnrow	106	Flatty
22	Tidemill	64	Great Marsh	107	Orem
23	Hambleton	65	France	108	Double Mills
24	West End	66	Dawson	109	Johnston
25	Hambleton Hill	67	Long Point Woods	110	Camden Point
26	Bozman Neck	68	Great Bar	111	Watermelon Point
27	Sea Turtle	69	Brown	112	Back Shore
28	Turtle Back (Miles River)	70	Deep Neck	113	Hopkins
29	Horseshoe (Miles River)	71	Mulberry Point	114	Willis
30	Aldridges Discovery	72	Well Point	115	Island Creek (Choptank River)
31	Upper Hill	73	Pompes	116	Matthews
32	Tilghmans Point.	74	Coopers Point	117	Chlora Point
33	Rich Neck	75	Judys Point	118	Beacons
34	Sedge Marsh (Tred Avon River)	76	Brushy Point	119	La Trappe
35	Wades Point	77	Willeys Island Flats	120	Howells Point
36	Marys Delight	78	Holland Point (Broad Creek)	121	Dickinson
37	Lows Point	79	Harrison	122	Kirby
38	Poplar Island	80	Broad Creek Middle-ground	123	Scraping Line
39	Poplar Island Narrows	81	Cedar Point (Broad Creek)	124	Bolingbroke Sand
40	Bay Hundred	82	Drum Point (Broad Creek)	125	The Black Buoy (Choptank River)
41	Pone	83	Joe Harris Flats	126	Sugar Loaf
42	Stone (Chesapeake Bay)	84	Pin Cushion	127	Chancellor Point
		85	Willeys Island	128	British Harbour
				129	Goose Point (Choptank River)
				130	Mill Dam
				131	Jamaica Point
				132	Spar Buoy

NUMERICAL INDEX TO NATURAL OYSTER BARS—Continued.

WICOMICO COUNTY.

County index number indicating oyster bars on Index Chart	Name of oyster bar	County index number indicating oyster bars on Index Chart	Name of oyster bar	County index number indicating oyster bars on Index Chart	Name of oyster bar
1	Upper Stake	7	Long Shoal	12	Big Hill
2	Wetipquin	8	Cherry Tree (Nanticoke River)	13	Great Shoals
3	Sand Lump			14	Ingram Shoal
4	Hickory Nut	9	Wilson Shoals	15	Holland
5	Old Womans Patch	10	Roaring Point East		
6	Cedar Shoal	11	Middleground		

WORCESTER COUNTY.

1	South Point	11	Purnell Hammock	20	Kennel
2	Handys Hammock	12	Diamond (Chincoteague Bay)	21	Big Bay Point
3	Newport			22	Toby
4	Lambertson Landing	13	Beef Creek	23	Deep Water
5	Ennis	14	Rattlesnake	24	Striking Marsh
6	Turpin	15	Martin Point	25	Levin Tump
7	Sandy Point (Chincoteague Bay)	16	Easter Cove	26	White Rock
		17	Mink Tump	27	Horsehead North
8	Robins Marsh	18	Sheep (Chincoteague Bay)	28	Horsehead South
9	Scarboro Creek				
10	Southwest	19	Drum		

CRAB BOTTOMS.

ALPHABETICAL INDEX.

NOTE.—See Numerical Index for names of crab bottoms corresponding to numbers on Index Chart.

Name of crab bottom	Chart number of Maryland Oyster Chart on which shown	Approximate geographic location				County in which located	County index number by which indicated on Index Chart	Page of U. S. Coast and Geodetic Survey county publication of Survey of Oyster Bars on which boundaries are defined	Page of Fourth Report of Maryland Shell Fish Commission on which characteristics are described
		Latitude		Longitude					
		°	′	°	′				
Adam Island	42	38	09	76	05	Dorchester	3	170	193
Apes Hole	9	37	57	75	48	Somerset	38	110	151
Back Creek	9	37	59	75	52	Somerset	29	104	151
Big Island	9	37	58	75	59	Somerset	39	101	151
Bishop Head	41	38	13	76	02	Dorchester	14	167	193
Bloodsworth Island	41, 42	38	11	76	02	Dorchester	7	168	193
Broad Creek	9	37	55	75	51	Somerset	36	108	151
Cancer	9	37	59	75	52	Somerset	28	104	151
Cedar Straits	9	37	55	75	54	Somerset	35	108	151
Colburn	7	38	04	75	47	Somerset	21	98	151
Crane Cove	7	38	04	75	49	Somerset	17	96	151
Daugherty Creek	7	38	02	75	51	Somerset	24	99	151
Deal Island	5, 7	38	08	75	58	Somerset	2	83	152
Deep Banks	5, 6, 7	38	08	76	02	Somerset	46	81	152
Drum	9	38	00	75	58	Somerset	40	102	151
Duck Point Cove	40	38	16	76	06	Dorchester	12	166	193
Fishing Creek	9	37	56	75	54	Somerset	34	107	151
Fishing Point	6, 7	38	02	76	00	Somerset	42	88	152
Fords Wharf	7	38	04	75	50	Somerset	16	95	151
Fox Creek	40	38	18	76	07	Dorchester	10	165	193
Geanquakin	5, 7	38	09	75	51	Somerset	10	85	152
Goose Creek	7	38	06	75	52	Somerset	12	93	151
Grassy	40, 41	38	12	76	03	Dorchester	8	167	193
Great Cove	41, 42	38	10	76	01	Dorchester	6	169	193
Great Point	9	37	57	75	54	Somerset	33	107	151
Hazard	7	38	04	75	53	Somerset	14	94	151
Holland Island	42	38	07	76	05	Dorchester	2	171	193
Holland Straits	5, 6, 7	38	09	76	01	Somerset	45	82	152
Jackson Island	7	38	03	75	50	Somerset	22	98	151
Jenkins Creek	9	37	57	75	52	Somerset	31	105	151
Jenny Island	40, 41	38	14	76	04	Dorchester	13	166	193
Jones Creek	7	38	02	75	50	Somerset	23	99	151
Kings Island	9	37	57	75	53	Somerset	32	106	151
Lavellette	9	37	58	75	52	Somerset	30	105	151
Laws Thoroughfare North	5	38	10	75	57	Somerset	1	83	152
Laws Thoroughfare South	5, 7	38	08	75	55	Somerset	7	84	152
Light House	9	37	58	75	53	Somerset	27	103	151
Little Deal Island	7	38	07	75	56	Somerset	4	91	151
Lower Thoroughfare	7	38	07	75	56	Somerset	6	91	151
Marsh Island	5, 7	38	08	75	53	Somerset	8	84	152
Miles	7	38	04	75	47	Somerset	20	97	151

ALPHABETICAL INDEX TO CRAB BOTTOMS—Continued.

Name of crab bottom	Chart number of Maryland Oyster Chart on which shown	Approximate geographic location. Latitude		Longitude		County in which located	County index number by which indicated on Index Chart	Page of U. S. Coast and Geodetic Survey county publication of Survey of Oyster Bars on which boundaries are defined	Page of Fourth Report of Maryland Shell Fish Commission on which characteristics are described
		°	′	°	′				
Mine Creek	7	38	05	75	53	Somerset	13	94	151
Moon Bay	7	38	04	75	48	Somerset	18	96	151
Northeast Island	42	38	09	76	04	Dorchester	4	169	193
North Kedge Straits	6	38	05	76	03	Somerset	49	87	152
Okahanikan	40, 41, 42	38	12	76	04	Dorchester	9	167	193
Old House	9	37	58	75	53	Somerset	26	102	151
Piney Island	7	38	06	75	55	Somerset	5	92	151
Pry Cove	6	38	06	76	03	Somerset	48	86	152
Pry Island	42	38	07	76	04	Dorchester	1	172	193
Pungers Creek	5, 6, 7	38	07	76	01	Somerset	44	82	152
Red Cap Creek	7	38	05	75	47	Somerset	19	97	151
Shanks Creek	8	37	58	76	02	Somerset	53	100	151
Shark Point	7	38	04	75	52	Somerset	15	95	151
Sheepshead	6, 7	38	04	76	02	Somerset	50	87	152
Smith Island Thoroughfare	6, 8, 9	38	00	76	03	Somerset	52	89	151
South Kedge Straits	6	38	02	76	02	Somerset	51	88	152
South Marsh	7	38	05	76	00	Somerset	43	90	151
Spring Island (Dorchester Co.)	42	38	08	76	03	Dorchester	5	170	193
Spring Island (Somerset Co.)	6	38	07	76	03	Somerset	47	86	152
St. Pierre	5, 7	38	08	75	52	Somerset	9	85	152
Teague Creek	7	38	07	75	50	Somerset	11	93	151
Tenth Point	7	38	02	75	51	Somerset	25	100	151
Terrapin Sand	7, 9	38	01	75	58	Somerset	41	89	151
Tylers Creek	8, 9	37	58	76	01	Somerset	54	101	151
Ware Point	9	37	56	75	49	Somerset	37	109	151
Wenona	7	38	07	75	57	Somerset	3	90	151
Wingate	40	38	17	76	06	Dorchester	11	165	193

CRAB BOTTOMS.

NUMERICAL INDEX.

NOTE.—See Alphabetical Index for other references relating to crab bottoms.

DORCHESTER COUNTY.

County index number indicating crab bottoms on Index Chart	Name of crab bottom	County index number indicating crab bottoms on Index Chart	Name of crab bottom	County index number indicating crab bottoms on Index Chart	Name of crab bottom
1	Pry Island	6	Great Cove	12	Duck Point Cove
2	Holland Island	7	Bloodsworth Island	13	Jenny Island
3	Adam Island	8	Grassy	14	Bishop Head
4	Northeast Island	9	Okahanikan		
5	Spring Island (Dorchester County)	10	Fox Creek		
		11	Wingate		

SOMERSET COUNTY.

1	Laws Thoroughfare North	19	Red Cap Creek	39	Big Island
2	Deal Island	20	Miles	40	Drum
3	Wenona	21	Colburn	41	Terrapin Sand
4	Little Deal Island	22	Jackson Island	42	Fishing Point
5	Piney Island	23	Jones Creek	43	South Marsh
6	Lower Thoroughfare	24	Daugherty Creek	44	Pungers Creek
7	Laws Thoroughfare South	25	Tenth Point	45	Holland Straits
8	Marsh Island	26	Old House	46	Deep Banks
9	St. Pierre	27	Light House	47	Spring Island (Somerset County)
10	Geanquakin	28	Cancer	48	Pry Cove
11	Teague Creek	29	Back Creek	49	North Kedge Straits
12	Goose Creek	30	Lavellette	50	Sheepshead
13	Mine Creek	31	Jenkins Creek	51	South Kedge Straits
14	Hazard	32	Kings Island	52	Smith Island Thoroughfare
15	Shark Point	33	Great Point	53	Shanks Creek
16	Fords Wharf	34	Fishing Creek	54	Tylers Creek
17	Crane Cove	35	Cedar Straits		
18	Moon Bay	36	Broad Creek		
		37	Ware Point		
		38	Apes Hole		

CLAM BEDS.

ALPHABETICAL INDEX.

NOTE.—See Numerical Index for names of clam beds corresponding to number on Index Chart.

Name of clam bed	Chart number of Maryland Oyster Chart on which shown	Approximate geographic location		County in which located	County index number by which indicated on Index Chart	Page of U. S. Coast and Geodetic Survey county publication of Survey of Oyster Bars on which boundaries are defined	Page of Fourth Report of Maryland Shell Fish Commission on which characteristics are described
		Latitude	Longitude				
		° ′	° ′				
Flat Rock	9, 10	37 56	75 47	Somerset	3	112	152
Gravel Rock	9	37 55	75 48	Somerset	2	111	152
Ware Rock	9	37 35	75 48	Somerset	1	111	152

NUMERICAL INDEX.

NOTE.—See Alphabetical Index for other references relating to clam beds.

SOMERSET COUNTY.

County index number indicating clam beds on Index Chart	Name of clam bed	County index number indicating clam beds on Index Chart	Name of clam bed	County index number indicating clam beds on Index Chart	Name of clam bed
1	Ware Rock	2	Gravel Rock	3	Flat Rock

LANDMARKS.

U. S. COAST AND GEODETIC SURVEY TRIANGULATION STATIONS.

ALPHABETICAL INDEX.

NOTE.—See Numerical Index for names of triangulation stations corresponding to numbers on Index Chart.

Name of station	Chart number of Maryland Oyster Chart on which shown	Approximate geographic location		County in which located	County index number by which indicated on Index Chart	Page of U. S. Coast and Geodetic Survey county publication of Survey of Oyster Bars on which locations are described
		Latitude	Longitude			
		° ′	° ′			
Aber	32	38 48	76 11	Talbot	29	66
Adam	37	38 33	76 11	Dorchester	49	71
Adams	24	38 08	76 29	St. Marys	109	87
Albert	32	38 52	76 10	Queen Annes	116	92
All	34	38 43	76 07	Talbot	211	127
Aller	32	38 54	76 10	Queen Annes	106	88
Alley	32	38 56	76 15	Queen Annes	79	77
Almshouse	3	38 56	76 32	Anne Arundel	82	92
Almshouse (Lighting Rod)	3	38 56	76 32	Anne Arundel	81	92
Alpha	3	38 52	76 32	Anne Arundel	96	96
Amour	29	38 43	76 16	Queen Annes	41	33
Annette	34	38 43	76 16	Talbot	123	93
Ansley	34	38 46	76 14	Talbot	157	105
Apple	3	38 50	76 32	Anne Arundel	101	98
Applegarth	40	38 14	76 08	Dorchester	93	87
Ar	41	38 19	75 55	Dorchester	128	98
Arbuckle	24	38 09	76 30	St. Marys	99	91
Arnold	2	39 02	76 32	Anne Arundel	42	80
Arundel	3	38 55	76 28	Anne Arundel	70	88
Asbury Church	9	37 58	75 50	Somerset	45	49
Ash	30	39 08	76 10	Kent	55	66
Ashland	30	39 07	76 06	Queen Annes	12	53
Asquith	40	38 17	76 09	Dorchester	107	90
Assateague Light	(1)	37 55	75 21	Virginia	23	[1] 40
Attila	32	38 52	76 10	Queen Annes	118	93
Austin	37	38 32	76 11	Dorchester	61	76
Avalon	33	38 43	76 20	Talbot	89	80
Aye	34	38 44	76 08	Talbot	202	123
Bach	34, 35	38 41	76 11	Talbot	224	132
Back	37	38 33	76 15	Dorchester	36	66
Bailey	26	38 14	76 47	St. Marys	168	126
Bald	34	38 45	76 15	Talbot	136	97
Baldwins	32	38 52	76 10	Talbot	12	58
Ball (Wicomico River)	5	38 14	75 51	Somerset	5	35
Ball (Harris Creek)	33	38 45	76 18	Talbot	119	86
Baltimore Light	(2)	39 04	76 24	Anne Arundel	6	[2] 32
Bank (Magothy River)	2	39 05	76 31	Anne Arundel	16	71
Bank (Swan Creek)	28, 29	39 09	76 16	Kent	5	31
Bank (St. Clement Bay)	25	38 16	76 43	St. Marys	147	110

[1] See Worcester County publication.

[2] See Queen Annes County publication.

ALPHABETICAL INDEX TO TRIANGULATION STATIONS—Continued.

Name of station	Chart number of Maryland Oyster Chart on which shown	Approximate geographic location				County in which located	County index number by which indicated on Index Chart	Page of U. S. Coast and Geodetic Survey county publication of Survey of Oyster Bars on which locations are described
		Latitude		Longitude				
		°	′	°	′			
Bank (Tred Avon River)	35	38	37	76	00	Talbot	263	158
Bar (Tangier Sound)	5, 7	38	08	75	58	Somerset	13	38
Bar (Harris Creek)	33	38	41	76	19	Talbot	87	79
Bar (Sinepuxent Bay)	13	38	16	75	08	Worcester	15	32
Barber (Wicomico River)	26	38	23	76	51	St. Marys	181	116
Barber (Tred Avon River)	35	38	36	76	01	Talbot	259	157
Bareda House Cupola	20	38	19	76	26	Calvert	18	55
Barn	7	38	08	75	48	Somerset	30	44
Barnett	34	38	46	76	11	Talbot	62	149
Bars	19	38	23	76	32	St. Marys	11	47
Bateman	34	38	45	76	07	Talbot	196	121
Bath	30	39	05	76	07	Queen Annes	22	46
Battle	19	38	27	76	37	Calvert	39	42
Batts	31	38	55	76	19	Queen Annes	53	66
Bay (Magothy River)	1	39	06	76	27	Anne Arundel	11	68
Bay (Severn River)	2	39	02	76	33	Anne Arundel	49	82
Bay Bush Point	30	39	03	76	13	Kent	23	46
Bay Ridge Stack	3	38	56	76	27	Anne Arundel	66	87
Bay Side	2	39	01	76	24	Anne Arundel	26	75
Bayly	37	38	33	76	15	Dorchester	37	67
Beach (Chesapeake Bay)	16	38	40	76	32	Calvert	2	27
Beach (Sinepuxent Bay)	13	38	17	75	07	Worcester	11	30
Beacon	9	37	55	75	54	Virginia	8	[1] 50
Beacon Clumps	14	38	08	75	12	Worcester	28	37
Beak	32	38	48	76	11	Talbot	33	68
Beau	25	38	16	76	38	St. Marys	121	98
Beckwith	37	38	34	76	12	Dorchester	44	70
Bee	32	38	54	76	10	Queen Annes	102	86
Beg	34	38	46	76	10	Talbot	39	141
Belle	25	38	16	76	39	St. Marys	130	96
Bellevue	34	38	42	76	11	Talbot	180	115
Bello	24	38	11	76	27	St. Marys	88	78
Ben	20	38	18	76	28	St. Marys	19	58
Bend	24	38	12	76	26	St. Marys	75	81
Bengal	34	38	46	76	15	Talbot	139	98
Benn	32	38	51	76	12	Queen Annes	89	81
Benoni 2	34	38	40	76	12	Talbot	177	114
Bentley	40	38	18	76	11	Dorchester	99	88
Berry	34, 35	38	40	76	09	Talbot	242	139
Bethel	34	38	47	76	08	Talbot	54	145
Between	24	38	07	76	26	St. Marys	55	70
Beverly	34	38	46	76	14	Talbot	155	104
Bight	2	39	02	76	32	Anne Arundel	41	80
Bill	30	39	09	76	05	Queen Annes	6	58
Billiard	19	38	29	76	40	St. Marys	2	38
Birch	13, 14	38	13	75	12	Worcester	22	35
Bird	30	39	04	76	10	Queen Annes	31	41
Bivalve Church	11	38	18	75	53	Wicomico	4	26
Black	33, 36	38	40	76	20	Talbot	84	78
Black Beacon	35	38	37	76	07	Talbot	252	153
Blakeford	30	39	00	76	10	Queen Annes	35	37
Blakistone	26	38	17	76	48	St. Marys	172	123
Blakistone Island Light	25	38	12	76	45	St. Marys	163	105

[1] See Somerset County publication.

ALPHABETICAL INDEX TO TRIANGULATION STATIONS—Continued.

Name of station	Chart number of Maryland Oyster Chart on which shown	Approximate geographic location				County in which located	County index number by which indicated on Index Chart	Page of U. S. Coast and Geodetic Survey county publication of Survey of Oyster Bars on which locations are described
		Latitude		Longitude				
		°	′	°	′			
Blanco	34	38	44	76	16	Talbot	128	95
Blank	(1)	39	10	76	02	Kent	92	88
Blind	35	38	38	75	59	Talbot	265	159
Bloody Point Bar Light	31	38	50	76	24	Queen Annes	46	63
Blossom	34	38	44	76	07	Talbot	200	123
Bluebeard	30	38	59	76	11	Queen Annes	36	37
Bluff (Severn River)	2	38	59	76	28	Anne Arundel	34	77
Bluff (Magothy River)	2	39	04	76	27	Anne Arundel	8	70
Bodkin Point (Old Tower)	1	39	08	76	25	Anne Arundel	3	68
Boling	35	38	35	76	02	Talbot	256	155
Bon	20	38	19	76	27	Calvert	19	54
Bonnet	32	38	56	76	14	Queen Annes	86	79
Booker	30	39	08	76	04	Queen Annes	9	56
Boone	34, 35	38	40	76	10	Talbot	225	132
Borough	34	38	42	76	09	Talbot	217	129
Bowman	26	38	20	76	52	Charles	10	27
Bozman	34	38	46	76	16	Talbot	112	91
Bozman M. E. Church Spire	34	38	46	76	16	Talbot	113	91
Bramble	28	39	15	76	13	Kent	2	29
Brannock	36, 37	38	35	76	16	Dorchester	29	56
Break	30	39	02	76	10	Queen Annes	34	38
Brewer (Severn River)	2	39	02	76	32	Anne Arundel	50	83
Brewer (South River)	3	38	57	76	33	Anne Arundel	80	91
Brian Reference Station	32	38	56	76	13	Queen Annes	87	80
Briary	33	38	46	76	18	Talbot	97	83
Brice	2	39	00	76	29	Anne Arundel	35	78
Bridge (Honga River)	39, 40	38	18	76	12	Dorchester	100	87
Bridge (Kent Island Narrows)	29, 32	38	58	76	15	Queen Annes	83	36
Brief	24	38	12	76	27	St. Marys	82	83
Briscoe	20	38	22	76	30	St. Marys	13	49
Broad (Chesapeake Bay)	4	38	47	76	31	Anne Arundel	107	100
Broad (Chester River)	(2)	39	09	76	04	Kent	87	85
Brome	24	38	11	76	26	St. Marys	72	80
Brooks	37	38	32	76	12	Dorchester	63	77
Brown	30	39	06	76	09	Kent	75	75
Bruffs	32	38	52	76	12	Talbot	18	61
Buena	19	38	32	76	39	Calvert	46	34
Buffing	13	38	19	75	07	Worcester	5	27
Buffington Windmill	13	38	19	75	07	Worcester	6	28
Bungay	30	39	09	76	11	Kent	48	63
Bur	20	38	20	76	29	Calvert	26	51
Burns	30	39	08	76	05	Queen Annes	11	54
Burr	26	38	21	76	52	Charles	9	26
Bush	32	38	53	76	08	Queen Annes	128	97
But	32	38	48	76	12	Talbot	28	65
Buzz	19	38	29	76	39	Calvert	43	38
Buzzard	25	38	17	76	38	St. Marys	128	94
Cabin	34	38	45	76	15	Talbot	134	97
Cable	20	38	19	76	29	St. Marys	16	52
Cain	20, 21	38	17	76	23	St. Marys	24	58
Cake	30	39	09	76	04	Queen Annes	7	57

[1] See progress map in Kent County publication.

[2] See Worcester County publication.

ALPHABETICAL INDEX TO TRIANGULATION STATIONS—Continued.

Name of station	Chart number of Maryland Oyster Chart on which shown	Approximate geographic location				County in which located	County index number by which indicated on Index Chart	Page of U. S. Coast and Geodetic Survey county publication of Survey of Oyster Bars on which locations are described
		Latitude		Longitude				
		°	′	°	′			
Calf	3	38	53	76	32	Anne Arundel	91	95
Calvert Monument	24	38	11	76	26	St. Marys	73	81
Cam	34	38	43	76	07	Talbot	212	127
Cambridge	35	38	35	76	05	Dorchester	16	50
Cambridge Stand Pipe	35	38	34	76	05	Dorchester	15	50
Camden	34	38	45	76	07	Talbot	199	122
Can	36, 37, 38	38	30	76	18	Dorchester	81	59
Canoe	25	38	15	76	44	St. Marys	161	107
Carrie	37	38	33	76	15	Dorchester	38	67
Carroll 2	20	38	18	76	25	St. Marys	21	56
Castle	35	38	38	76	10	Dorchester	24	53
Catholic Church Cross	20	38	20	76	28	Calvert	24	52
Catholic Church Cross (Benedict)	26	38	31	76	41	Charles	4	37
Catholic Church Cross (Newtown Neck)	25	38	15	76	42	St. Marys	143	108
Catholic Church Spire (Annapolis)	2	38	58	76	29	Anne Arundel	60	85
Cato	3	38	52	76	31	Anne Arundel	88	94
Caulk	34	38	45	76	16	Talbot	130	95
Cecil	25	38	17	76	43	St. Marys	148	112
Cedar (South River)	3	38	56	76	32	Anne Arundel	83	92
Cedar (Severn River)	2	39	04	76	34	Anne Arundel	45	81
Cedar (Bretons Bay)	25	38	16	76	38	St. Marys	124	95
Cedar (Broad Creek)	34	38	44	76	14	Talbot	166	109
Cedar Point Light	20, 39	38	18	76	22	St. Marys	23	58
Cedoak	25	38	14	76	41	St. Marys	114	104
Chadwick	24	38	10	76	31	St. Marys	102	92
Chalk	3	38	50	76	32	Anne Arundel	99	97
Chan	24	38	10	76	27	St. Marys	70	78
Chancellor	35	38	35	76	02	Talbot	258	156
Change 1910	33, 34	38	43	76	18	Talbot	121	86
Chap	32	38	48	76	07	Talbot	50	70
Chapel	25	38	16	76	42	St. Marys	144	108
Charles (Wicomico River)	26	38	17	76	50	Charles	14	30
Charles (Honga River)	40	38	19	76	10	Dorchester	105	89
Charles (Island Creek)	34, 35	38	40	76	08	Talbot	231	135
Chase (Severn River)	2	39	01	76	31	Anne Arundel	39	79
Chase (Whitehall Bay)	2	39	00	76	26	Anne Arundel	30	76
Chef	33, 36, 37	38	38	76	17	Dorchester	27	55
Cherry	24	38	08	76	28	St. Marys	93	86
Cherry Cove	25	38	16	76	41	St. Marys	135	100
Cherry Island Water Tank	37	38	34	76	13	Dorchester	45	70
Ches	3	38	52	76	31	Anne Arundel	95	96
Chester (Chester River)	30	39	06	76	07	Queen Annes	15	51
Chester (Virginia)	[1]	37	57	75	26	Virginia	21	[1]41
Chestnut	24	38	10	76	25	St. Marys	63	76
Chew	32	38	53	76	08	Talbot	4	55
Chief	35	38	35	75	59	Dorchester	8	47
Child	12	38	15	75	50	Wicomico	13	30
Chin	32	38	54	76	10	Queen Annes	105	87
Chlora	35	38	38	76	09	Talbot	245	150
Choptank River Light	34, 35, 37	38	39	76	11	Talbot	244	140

[1] See Worcester County publication.

ALPHABETICAL INDEX TO TRIANGULATION STATIONS —Continued.

Name of station	Chart number of Maryland Oyster Chart on which shown	Approximate geographic location				County in which located	County index number by which indicated on Index Chart	Page of U. S. Coast and Geodetic Survey county publication of Survey of Oyster Bars on which locations are described
		Latitude		Longitude				
		°	′	°	′			
Church	24	38	10	76	26	St. Marys	60	73
Church Creek (No. 1 West)	37	38	31	76	11	Dorchester	60	76
City	26	38	31	76	40	Charles	3	37
Clark	34	38	44	76	12	Talbot	163	108
Clay	30	39	09	76	09	Kent	61	68
Clem	2	39	01	76	32	Anne Arundel	51	83
Close	32	38	54	76	10	Queen Annes	103	87
Clump (Chesapeake Bay)	2	39	00	76	25	Anne Arundel	27	75
Clump (Harris Creek)	34	38	47	76	16	Talbot	105	89
Coal	34	38	44	76	15	Talbot	125	93
Cobb Point Bar Light	26	38	15	76	50	Charles	18	32
Cobrums	25	38	17	76	43	St. Marys	155	113
Coffee	31	38	56	76	19	Queen Annes	56	67
Cohouck	26	38	21	76	50	St. Marys	179	118
Colburn	7	38	03	75	48	Somerset	38	46
Cole	19	38	24	76	35	St. Marys	9	45
Collier	[1]	38	21	75	05	Worcester	38	24
Collins	19	38	28	76	40	St. Marys	4	39
Colonel	32	38	51	76	11	Talbot	16	60
Comb (Miles River)	34	38	46	76	10	Talbot	60	148
Combs (Honga River)	24	38	08	76	29	St. Marys	96	88
Command	35	38	36	76	05	Dorchester	18	51
Compton	25	38	15	76	42	St. Marys	136	102
Convent Water Tower	[1]	38	21	75	05	Worcester	39	25
Cook	34	38	43	76	14	Talbot	168	110
Cook Point Windmill	36, 37	38	37	76	17	Dorchester	28	55
Cool	2	39	01	76	31	Anne Arundel	38	79
Coppage	24	38	10	76	28	St. Marys	89	77
Corn (Chesapeake Bay)	2	39	01	76	24	Anne Arundel	24	74
Corn (Langford Creek)	30	39	07	76	10	Kent	69	71
Corn (Bretons Bay)	25	38	17	76	38	St. Marys	125	95
Corner (Wicomico River)	26	38	16	76	50	Charles	17	32
Corner (Choptank River)	37	38	37	76	12	Dorchester	25	64
Corner (Wye River)	32	38	53	76	08	Talbot	2	55
Corpse	30	39	06	76	07	Queen Annes	14	51
Corr	28	39	10	76	15	Kent	10	32
Corsica	30	39	05	76	09	Queen Annes	18	47
Cottage (Chesapeake Bay)	3	38	55	76	28	Anne Arundel	67	87
Cottage (St. Inigoes Creek)	24	38	10	76	26	St. Marys	67	74
Counallor	3	38	51	76	32	Anne Arundel	98	97
Cousin	32	38	52	76	10	Talbot	13	59
Cove	3	38	51	76	32	Anne Arundel	102	98
Cove Point Light	18, 20, 38	38	23	76	23	Calvert	14	32
Cow	41	38	16	75	57	Dorchester	126	97
Cox (Crab Alley Bay)	31	38	55	76	18	Queen Annes	73	74
Cox (Manokin River)	7	38	09	75	47	Somerset	28	43
Crab	41	38	11	76	01	Dorchester	96	93
Crack	34	38	42	76	07	Talbot	214	128
Craddock	20	38	18	76	27	St. Marys	20	56
Craighill Channel Light (Front Range)	27	39	11	76	24	Baltimore	2	25
Craighill Channel Light (Rear Range)	27	39	14	76	24	Baltimore	1	25

[1] See Worcester County progress map.

ALPHABETICAL INDEX TO TRIANGULATION STATIONS—Continued.

Name of station	Chart number of Maryland Oyster Chart on which shown	Approximate geographic location				County in which located	County index number by which indicated on Index Chart	Page of U. S. Coast and Geodetic Survey county publication of Survey of Oyster Bars on which locations are described
		Latitude		Longitude				
		°	′	°	′			
Crane	20	38	19	76	29	St. Marys	18	53
Craney	31	38	56	76	22	Queen Annes	45	63
Creek (Irish Creek)	34	38	42	76	13	Talbot	176	113
Creek (Wicomico River)	12	38	16	75	49	Wicomico	14	31
Cremona	19	38	27	76	39	St. Marys	5	40
Croch	41	38	15	76	02	Dorchester	115	93
Crow	30	39	03	76	10	Queen Annes	30	41
Cult	30	39	08	76	09	Kent	67	70
Cummings	33, 34	38	46	76	18	Talbot	99	84
Cup	10	37	56	75	38	Virginia	15	[1] 53
Cupola (Rhode River)	3	38	52	76	32	Anne Arundel	93	95
Cupola (Manokin River)	7	38	08	75	49	Somerset	31	44
Curtis	3	38	51	76	30	Anne Arundel	103	98
Cut	30	39	06	76	13	Kent	33	52
Cutoff Channel Light (Front Range)	27	39	12	76	27	Baltimore	4	26
Cutoff Channel Light (Rear Range)	27	39	13	76	28	Baltimore	6	26
Dago	24	38	07	76	24	St. Marys	40	64
Dan	33, 34	38	46	76	18	Talbot	116	84
Darce	32	38	53	76	11	Queen Annes	109	89
David	37	38	33	76	12	Dorchester	51	72
Davis	30	39	07	76	10	Kent	42	61
Day	24	38	06	76	25	St. Marys	54	69
Deal Island Church	5	38	09	75	57	Somerset	12	38
Deck	32	38	53	76	09	Talbot	7	57
Deep	24	38	11	76	27	St. Marys	85	80
Deep Cove	30	39	06	76	11	Kent	38	59
Deep Point 2	30	39	07	76	07	Kent	78	77
Deewat	32	38	48	76	13	Talbot	68	72
Delahay	34, 35	38	40	76	09	Talbot	228	134
Dell	31	38	55	76	19	Queen Annes	70	73
Delta (Rhode River)	3	38	53	76	31	Anne Arundel	89	94
Delta (Broad Creek)	34	38	46	76	16	Talbot	142	100
Desert	20, 21	38	16	76	24	St. Marys	25	58
Deux	34	38	42	76	07	Talbot	213	128
Dicks Water Tank	35	38	35	76	05	Dorchester	19	50
Divide	32	38	53	76	09	Queen Annes	123	95
Dixon	32	38	51	76	16	Talbot	73	75
Dobbins	2	39	05	76	28	Anne Arundel	13	71
Doctor (Little Choptank River)	37	38	32	76	12	Dorchester	64	77
Doctor (Miles River)	34	38	47	76	09	Talbot	56	146
Dog	34	38	47	76	17	Talbot	100	87
Dorrance	34	38	47	76	09	Talbot	45	144
Dot	37	38	38	76	14	Dorchester	26	64
Double	35	38	36	76	03	Talbot	255	155
Dove	5	38	12	75	52	Somerset	8	36
Down	30	39	09	76	04	Queen Annes	5	59
Draw	32	38	48	76	08	Talbot	49	70
Drum (Langford Creek)	30	39	07	76	10	Kent	41	60
Drum (Smith Creek)	24	38	07	76	24	St. Marys	44	65
Drum Point Light	20	38	19	76	25	Calvert	17	55

[1] See Somerset County publications.

ALPHABETICAL INDEX TO TRIANGULATION STATIONS—Continued.

Name of station	Chart number of Maryland Oyster Chart on which shown	Approximate geographic location				County in which located	County index number by which indicated on index Chart	Page of U. S. Coast and Geodetic Survey county publication of Survey of Oyster Bars on which locations are described
		Latitude		Longitude				
		°	′	°	′			
Duck (Honga River)	40	38	17	76	06	Dorchester	110	92
Duck (Choptank River)	35	38	36	76	00	Talbot	260	157
Dull	32	38	56	76	15	Queen Annes	81	78
Dune	25	38	14	76	41	St. Marys	116	103
Dunk	33	38	45	76	19	Talbot	94	82
Dunnock	38	38	23	76	17	Dorchester	86	83
Dupont	37	38	34	76	13	Dorchester	43	69
Dusky	24	38	10	76	26	St. Marys	66	74
Dutchman	3	38	52	76	31	Anne Arundel	87	93
Dwarf	19	38	30	76	40	Calvert	44	37
Dynard	25	38	18	76	43	St. Marys	153	115
Eagle (Langford Creek)	30	39	08	76	11	Kent	44	61
Eagle (Harris Creek)	33	38	44	76	19	Talbot	93	81
Ear	41	38	17	76	00	Dorchester	122	96
Earle (Corsica River)	30	39	05	76	08	Queen Annes	26	44
Earle (Nanticoke River)	11	38	21	75	52	Wicomico	1	25
East	9	37	56	75	50	Somerset	48	51
E. Cambridge Spire	35	38	34	76	04	Dorchester	13	50
E. Cambridge Tall Stack	35	38	34	76	04	Dorchester	14	49
Eastman	34	38	46	76	15	Talbot	140	99
Easton	32	38	48	76	08	Talbot	52	71
Edmond	33	38	46	76	18	Talbot	117	85
Edward	32	38	52	76	11	Talbot	15	60
Eedling	26	38	19	76	51	Charles	11	28
Eleanor	37	38	32	76	13	Dorchester	65	78
Ella	12	38	15	75	52	Wicomico	11	29
Elliason	28	39	09	76	15	Kent	8	34
Elliott	41	38	19	76	01	Dorchester	121	95
Ellpow	13	38	18	75	08	Worcester	10	30
Elmore	34	38	46	76	14	Talbot	154	104
Emanuel Church	9	37	59	75	51	Somerset	43	49
End (Harris Creek)	31, 32, 34	38	48	76	17	Talbot	107	41
End (Wicomico River)	12	38	15	75	49	Wicomico	15	31
Engineer	30	39	05	76	08	Queen Annes	20	46
Enough	24	38	07	76	24	St. Marys	43	65
Enter	34, 35	38	40	76	10	Talbot	226	133
Episcopal Church Cross (Old St. Marys)	24	38	11	76	26	St. Marys	74	81
Etna	3	38	53	76	31	Anne Arundel	90	94
Etta	37	38	32	76	12	Dorchester	55	74
Evans	30	39	06	76	08	Queen Annes	16	49
Ewell Church Spire (Smith Island)	8	37	58	76	01	Somerset	58	47
Face	32	38	49	76	11	Talbot	31	67
Fact	26	38	20	76	51	St. Marys	177	120
Fair	32	38	48	76	12	Talbot	26	65
Fairbanks	34	38	45	76	16	Talbot	131	96
Fairhaven	4	38	45	76	34	Anne Arundel	110	101
Fairmount Church	7	38	06	75	48	Somerset	33	44
Farm	41	38	19	76	03	Dorchester	118	94
Farr	26	38	19	76	50	St. Marys	176	121
Fassett	13	38	17	75	08	Worcester	12	31
Fence	25	38	15	76	41	St. Marys	117*	101
Ferry (Magothy River)	2	39	04	76	30	Anne Arundel	19	72

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		Latitude		Longitude				
		°	′	°	′			
Ferry (Choptank River)	35	38	34	76	02	Dorchester	11	48
Ferry (Wye River)	32	38	53	76	11	Queen Annes	96	84
Field	2	39	00	76	30	Anne Arundel	55	84
Fig	34	38	47	76	08	Talbot	55	145
Fight	19	38	26	76	39	St. Marys	7	42
Finish	38	38	28	76	17	Dorchester	75	81
Fir	30	39	03	76	11	Queen Annes	33	39
First	34, 35	38	41	76	10	Talbot	223	132
Fish	41	38	16	75	59	Dorchester	123	96
Fishbone	9	37	53	76	00	Virginia	6	[1] 48
Fishstack	20	38	19	76	27	Calvert	20	54
Fitz	([1])	38	09	75	47	Somerset	25	43
Flagpole	24	38	08	76	25	St. Marys	48	68
Flag Pond	18	38	27	76	28	Calvert	11	31
Flag Staff (Naval Academy Boathouse)	2	38	59	76	29	Anne Arundel	57	85
Flat (Wye River)	32	38	52	76	11	Queen Annes	115	92
Flat (Smith Creek)	24	38	08	76	25	St. Marys	50	68
Flat Cap	7	38	02	75	53	Somerset	40	46
Fodder	26	38	32	76	41	Charles	1	35
Fog 2	6	38	02	76	02	Somerset	54	39
Ford (Langford Creek)	30	39	08	76	11	Kent	45	62
Ford (Chesapeake Bay)	21	38	14	76	24	St. Marys	26	59
Ford (Big Annemessex River)	7	38	04	75	50	Somerset	36	45
Fore	30	39	06	76	12	Kent	34	53
Fork	28	39	09	76	15	Kent	7	35
Forr	19	38	25	76	36	St. Marys	8	43
Fort (Severn River)	2	38	59	76	28	Anne Arundel	33	**77**
Fort (St. Marys River) Fort Howard	24	38	08	76	26	St. Marys	56	71
Taller Water Tank	27	39	12	76	27	Baltimore	5	26
Fox	34	38	46	76	17	Talbot	115	92
Fox Island Poplar	9	37	54	75	54	Virginia	9	[2] 50
Foxwell	25	38	17	76	38	St. Marys	127	94
Frank	32	38	51	76	12	Talbot	21	62
Franklin	4	38	49	76	30	Anne Arundel	105	99
Frog	41	38	14	75	57	Dorchester	125	96
Front	33	38	44	76	21	Talbot	81	77
Gander	35	38	36	75	59	Dorchester	7	47
Gantt	([3])	38	20	75	06	Worcester	40	25
Gash	34	38	45	76	07	Talbot	198	122
Geog	7	38	03	75	49	Somerset	39	46
Gibbs	34	38	47	76	11	Talbot	37	141
Ginger	3	38	57	76	33	Anne Arundel	75	90
Gis	35	38	38	76	07	Talbot	250	153
Go	32	38	53	76	10	Queen Annes	122	94
Golds	31	38	42	76	09	Talbot	218	130
Goose (Grays Inn River)	30	39	06	76	13	Kent	28	50
Goose (St. George River)	24	38	08	76	29	St. Marys	95	88
Gordon	30	39	03	76	11	Queen Annes	32	40
Gover	11	38	21	75	54	Dorchester	129	98
Gowan	3	38	53	76	29	Anne Arundel	86	93

[1] Somerset County publication. [2] See progress map in Worcester County publication. [3] See Somerset County publication.

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		Latitude	Longitude			
		° ′	° ′			
Grace	34	38 46	76 17	Talbot	102	88
Grace M. E. Church	15	38 01	75 23	Virginia	17	[1] 41
Gram (Severn River)	3	38 57	76 28	Anne Arundel	64	86
Gram (Broad Creek)	34	38 46	76 15	Talbot	138	98
Granary	32	38 53	76 08	Queen Annes	126	96
Grason	24	38 10	76 26	St. Marys	61	75
Gratitude	28, 29	39 08	76 16	Kent	16	37
Grave	34	38 46	76 14	Talbot	149	102
Gravel	24	38 10	76 26	St. Marys	71	79
Gray	30	39 06	76 13	Kent	30	51
Great	33	38 45	76 21	Talbot	80	77
Great Shoals Light	12	38 13	75 53	Wicomico	10	35
Greek	31	38 56	76 18	Queen Annes	68	72
Green (Eastern Bay)	32	38 54	76 12	Queen Annes	88	80
Green (Manokin River)	7	38 09	75 47	Somerset	29	44
Green Run Inlet Life Saving Station Flagstaff.	14, 15	38 05	75 12	Worcester	31	38
Greenbury	2	38 58	76 27	Anne Arundel	31	77
Greenbury Point Light	2	38 58	76 27	Anne Arundel	32	77
Greenwell	37	38 33	76 14	Dorchester	40	68
Grind	24	38 10	76 27	St. Marys	90	76
Grove (Reeds Creek)	30	39 03	76 10	Queen Annes	29	42
Grove (Bretons Bay)	25	38 14	76 41	St. Marys	115	104
Grubin	35	38 38	76 07	Talbot	251	153
Guest	25	38 18	76 43	St. Marys	150	114
Guilberts Cupola	14	38 09	75 17	Worcester	27	38
Guither	24	38 10	76 31	St. Marys	103	93
Gull	13	38 19	75 06	Worcester	7	28
Gunners	39, 40	38 20	76 13	Dorchester	101	86
Gust	26	38 19	76 51	Charles	12	28
Gusta	32	38 53	76 10	Talbot	10	58
Gut	30	39 09	76 09	Kent	63	69
Hackett	2	38 59	76 25	Anne Arundel	28	76
Haddaway	33	38 47	76 20	Talbot	77	76
Haines	5	38 11	75 57	Somerset	11	37
Hall (Potomac River)	22	38 04	76 22	St. Marys	36	62
Hall (Miles River)	34	38 45	76 10	Talbot	61	148
Hall House (Middle Chimney)	22	38 04	76 22	St. Marys	37	63
Hallowing	19	38 31	76 40	Calvert	45	36
Ham (Magothy River)	2	39 05	76 30	Anne Arundel	15	71
Ham (Miles River)	34	38 46	76 10	Talbot	59	147
Hambrooks Bar Beacon	35	38 36	76 05	Dorchester	17	50
Hamilton	13	38 20	75 05	Worcester	1	26
Hammett	24	38 13	76 28	St. Marys	78	85
Handys Hammock	13, 14	38 13	75 15	Worcester	25	36
Hard	26	38 16	76 50	Charles	15	31
Harmon	13	38 20	75 07	Worcester	3	26
Harp	30	39 09	76 09	Kent	60	68
Harper	34	38 46	76 14	Talbot	158	106
Harrington	38	38 29	76 18	Dorchester	77	82
Harrison	34	38 47	76 17	Talbot	104	89

[1] See Worcester County publication.

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Name of station	Chart number of Maryland Oyster Chart on which shown	Approximate geographic location				County in which located	County index number by which indicated on Index Chart	Page of U. S. Coast and Geodetic Survey county publication of Survey of Oyster Bars on which locations are described
		Latitude		Longitude				
		°	′	°	′			
Harry	34, 35	38	40	76	08	Talbot	230	134
Has	7	38	04	75	52	Somerset	35	45
Haven	28, 29	39	09	76	15	Kent	13	35
Hawk	33	38	45	76	19	Talbot	95	82
Hayden	26	38	21	76	52	Charles	8	26
Head	41	38	13	76	02	Dorchester	114	93
Healey (Bretons Bay)	25	38	16	76	39	St. Marys	131	97
Healey (Island Creek)	34, 35	38	40	76	08	Talbot	238	137
Hedney	26	38	18	76	51	Charles	13	29
Hellen	20	38	21	76	29	Calvert	28	49
Hen	33	38	44	76	18	Talbot	120	86
Henderson	32, 34	38	47	76	08	Talbot	53	71
Henry	37	38	33	76	15	Dorchester	34	66
Here	31	38	57	76	20	Queen Annes	57	68
Heron	25	38	13	76	43	St. Marys	164	105
Herr	32	38	50	76	13	Talbot	23	63
Herring	30	39	07	76	13	Kent	31	51
Herring Pond 2	(1)	38	10	76	41	Virginia	1	[1] 105
Hickory	1	39	05	76	27	Anne Arundel	12	69
High (Severn River)	2	39	04	76	33	Anne Arundel	44	81
High (Honga River)	41	38	19	76	01	Dorchester	120	95
Higher	34	38	43	76	07	Talbot	210	127
Hill	3	38	55	76	30	Anne Arundel	71	88
Hog 2	20	38	19	76	24	St. Marys	22	56
Hog Point (Holland 3)	16	38	43	76	32	Calvert	1	26
Holland (Chesapeake Bay	4	38	44	76	32	Anne Arundel	111	101
Holland (Wicomico River)	12	38	15	75	51	Wicomico	12	30
Holland Island Bar Light	6	38	04	76	06	Somerset	53	39
Holland Island Church Spire	42	38	07	76	05	Dorchester	95	104
Hollow	25	38	16	76	39	St. Marys	132	98
Holly	34	38	44	76	12	Talbot	164	108
Holton Point	30	39	05	76	09	Queen Annes	27	43
Hoo	30	39	08	76	09	Kent	66	70
Hook	32	38	54	76	11	Queen Annes	98	85
Hooper Island Light	39	38	15	76	15	Dorchester	92	84
Hooper Strait Light	40	38	14	76	05	Dorchester	113	93
Hoopersville Methodist Church Cupola	40	38	16	76	11	Dorchester	98	88
Hope	31	38	58	76	19	Queen Annes	63	70
Hopkins (Herring Bay)	4	38	46	76	33	Anne Arundel	109	100
Hopkins (Broad Creek)	34	38	45	76	13	Talbot	160	106
Hopkins Memorial Church Cupola	40	38	15	76	08	Dorchester	97	88
Horn (Magothy River)	2	39	05	76	31	Anne Arundel	17	72
Horn (Severn River)	2	38	58	76	28	Anne Arundel	62	85
Hornor	30	39	08	76	10	Kent	53	65
Horse	9	37	57	76	00	Virginia	5	[2] 49
Horseshoe (Chesapeake Bay)	3	38	50	76	29	Anne Arundel	104	99

[1] See St. Marys County publications.

[2] See Somerset County publications.

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		Latitude		Longitude				
		°	′	°	′			
Horseshoe (St. Marys River)	24	38	12	76	27	St. Marys	76	82
Hosier Memorial Church Spire	39, 40	38	20	76	14	Dorchester	89	87
Hospital Cupola (Naval Academy)	2	38	59	76	30	Anne Arundel	56	85
Hough	32	38	51	76	12	Queen Annes	90	81
House	35	38	38	75	58	Dorchester	3	45
Howard (Choptank River)	35	38	35	76	07	Dorchester	20	51
Howards (St. Clement Bay)	25	38	16	76	42	St. Marys	146	110
Howells	35	38	37	76	07	Talbot	253	154
Huddle	2	39	04	76	29	Anne Arundel	20	73
Hudson	37	38	32	76	15	Dorchester	32	65
Hugh	37	38	32	76	12	Dorchester	54	73
Hunter	34	38	43	76	08	Talbot	203	124
Hunting	34	38	46	76	10	Talbot	42	143
Hut	35	38	38	75	58	Dorchester	2	44
Hutchins	19	38	23	76	33	St. Marys	10	46
Hydrographic	30	39	05	76	08	Queen Annes	25	44
Ide	30	39	08	76	08	Kent	65	70
Ila	34	38	42	76	13	Talbot	175	113
Ill 2	16	38	39	76	32	Calvert	3	27
In	24	38	07	76	24	St. Marys	45	66
Indian (Patuxent River)	26	38	30	76	41	Charles	5	38
Indian (Chester River)	30	39	07	76	06	Queen Annes	13	52
Inez	35	38	38	76	07	Talbot	249	152
Ingraya	13	38	14	75	10	Worcester	19	34
Inigoes	24	38	10	76	26	St. Marys	68	73
Inkquill	13	38	18	75	07	Worcester	8	28
Inn	30	39	05	76	12	Kent	37	54
Irish	34	38	42	76	14	Talbot	171	111
Iron	2	39	05	76	29	Anne Arundel	14	71
Island (Severn River)	2	39	02	76	34	Anne Arundel	48	82
Island (Patuxent River)	19	38	21	76	32	Calvert	35	44
Island (Grays Inn Creek)	30	39	06	76	12	Kent	35	53
Isle	30	39	08	76	10	Kent	43	61
Ivee	5	38	15	75	50	Somerset	3	34
Jam	35	38	37	75	59	Talbot	261	158
James (Chesapeake Bay)	36, 37	38	32	76	20	Dorchester	84	61
James (Miles River)	32	38	51	76	12	Talbot	20	62
Janes Island Light	9	37	58	75	55	Somerset	41	49
Jarrett	30	39	08	76	05	Kent	82	81
Jay	34, 35	38	40	76	08	Talbot	241	139
Jean	5, 7	38	09	75	51	Somerset	22	39
Jenifer	37	38	33	76	15	Dorchester	33	65
Jere	33, 36	38	37	76	22	Talbot	86	79
Johnson	32, 34	38	47	76	08	Talbot	47	69
Jones	5	38	15	75	49	Somerset	2	34
Joseph	6, 8	38	01	76	03	Somerset	55	40
Joshua	7	38	07	75	57	Somerset	14	41
Journey	30	39	08	76	04	Queen Annes	8	56
Judge	34	38	45	76	14	Talbot	152	103

ALPHABETICAL INDEX TO TRIANGULATION STATIONS—Continued.

Name of station	Chart number of Maryland Oyster Chart on which shown	Approximate geographic location				County in which located	County index number by which indicated on Index Chart	Page of U. S. Coast and Geodetic Survey county publication of Survey of Oyster Bars on which locations are described
		Latitude		Longitude				
		°	′	°	′			
Juliet	11	38	20	75	53	Wicomico	2	25
Julius	30	39	09	76	03	Queen Annes	4	59
June	32	38	54	76	10	Queen Annes	104	87
Jutland	24	38	07	76	25	St. Marys	47	67
Kaywood	25	38	14	76	42	St. Marys	139	104
Keenes	39, 40	38	22	76	13	Dorchester	102	86
Kelley	7	38	08	75	55	Somerset	19	41
Kemp	31	38	50	76	18	Talbot	76	40
Kemp Tower	31	38	50	76	18	Talbot	75	40
Kennedy	24	38	10	76	26	St. Marys	69	77
Kent	34, 35	38	40	76	08	Talbot	229	134
Kerwin	40	38	22	76	11	Dorchester	103	89
Key	26	38	22	76	50	St. Marys	180	117
Killick Shoal Light	(1)	38	57	75	23	Virginia	22	40
King	30	39	08	76	10	Kent	54	65
Kinsley	30	39	08	76	11	Kent	46	62
Kirby	37	38	32	76	11	Dorchester	58	75
Kirk	34	38	46	76	09	Talbot	58	147
Kirwan	32	38	57	76	15	Queen Annes	82	79
Kit (Island Creek)	34, 35	38	41	76	07	Talbot	235	136
Kitt (Patuxent River)	19	38	28	76	37	Calvert	40	41
Knee	32	38	54	76	10	Queen Annes	99	85
K. of P. Flagstaff (Solomons)	20	38	19	76	27	Calvert	21	53
Knob	2	39	00	76	30	Anne Arundel	36	78
Knock	31	38	57	76	19	Queen Annes	64	70
Koot	34	38	46	76	17	Talbot	114	91
Labor	24	38	06	76	28	St. Marys	111	69
Lakes	40	38	19	76	09	Dorchester	106	90
Lan	35	38	38	76	07	Talbot	247	151
Landeye	34, 35	38	40	76	09	Talbot	243	139
Landing	31	38	57	76	19	Queen Annes	65	71
Landlet	14	38	07	75	18	Worcester	29	38
Laney	37	38	32	76	13	Dorchester	66	78
Langford	30	39	06	76	10	Kent	73	73
Large Water Tank	35	38	38	76	10	Dorchester	23	52
Larramore	3	38	57	76	34	Anne Arundel	79	91
Law	32	38	51	76	12	Talbot	19	61
Lawn	31, 32, 34	38	47	76	16	Talbot	106	41
Lawyer	30	39	07	76	11	Kent	40	60
Layor	34	38	43	76	08	Talbot	216	129
Layton	37	38	33	76	12	Dorchester	50	72
Leary	30	39	08	76	09	Kent	57	66
Leaven	32	38	53	76	11	Queen Annes	112	90
Le Compte	35	38	36	76	10	Dorchester	22	52
Lee	37	38	33	76	13	Dorchester	46	70
Leeds	32	38	48	76	12	Talbot	35	68
Leitch	19	38	32	76	40	Calvert	47	33
Lend	19, 20	38	23	76	30	Calvert	30	48
Lerch Windmill	3	38	50	76	32	Anne Arundel	100	97
Le Seur	32	38	52	76	10	Queen Annes	117	92
Little	5	38	13	75	50	Somerset	7	35
Little Gum	30	39	05	76	12	Kent	24	48

[1] See Worcester County publication.

ALPHABETICAL INDEX TO TRIANGULATION STATIONS—Continued.

Name of station	Chart number of Maryland Oyster Chart on which shown	Approximate geographic location		County in which located	County index number by which indicated on Index Chart	Page of U. S. Coast and Geodetic Survey county publication of Survey of Oyster Bars on which locations are described
		Latitude	Longitude			
		° ′	° ′			
Liver	31	38 57	76 19	Queen Annes	59	68
Lloyd	32	38 52	76 10	Talbot	14	59
Locust (Chesapeake Bay)	1	39 06	76 26	Anne Arundel	4	68
Locust (Langford Creek)	30	39 09	76 11	Kent	49	63
Locust (Manokin River)	7	38 09	75 48	Somerset	24	42
Long (Severn River)	2	39 03	76 33	Anne Arundel	47	82
Long (Miles River)	34	38 46	76 10	Talbot	38	141
Long Point	15	38 00	75 22	Virginia	18	[1] 41
Longwells Windmill	13	38 15	75 09	Worcester	16	33
Louise	37	38 33	76 15	Dorchester	39	68
Love Point Light	29	39 03	76 17	Queen Annes	42	33
Lovely	30	39 09	76 09	Kent	62	69
Lovers	25	38 16	76 39	St. Marys	120	99
Lowell	24	38 09	76 30	St. Marys	100	91
Lowndes	32	38 48	76 08	Talbot	48	69
Luce	2	39 01	76 31	Anne Arundel	53	84
Lucy	30	39 06	76 13	Kent	27	50
Luna	34	38 45	76 16	Talbot	133	96
Lynch Point 3	(2)	38 03	76 31	Virginia	2	[2] 70
Lyon	26	38 18	76 50	St. Marys	175	122
McConnell	34	38 47	76 09	Talbot	57	146
McCoy	24	38 13	76 28	St. Marys	79	85
McKay	24	38 11	76 27	St. Marys	86	79
Mac	37	38 32	76 13	Dorchester	67	78
Mackall	19, 20	38 23	76 30	Calvert	32	46
Macum	29	39 00	76 17	Queen Annes	39	35
Madison Southern M. E. Church Spire	37	38 30	76 13	Dorchester	68	79
Magothy	2	39 02	76 25	Anne Arundel	23	74
Maiden	34	38 46	76 11	Talbot	63	149
Mais	32	38 48	76 11	Talbot	32	67
Major	30	39 07	76 10	Kent	71	72
Make	30	39 09	76 05	Kent	86	84
Mansion	25	38 16	76 42	St. Marys	145	109
Marge	34	38 47	76 11	Talbot	36	140
Marion	34	38 47	76 16	Talbot	143	100
Mars	34	38 46	76 15	Talbot	147	101
Marsh (Broad Creek)	34	38 44	76 13	Talbot	165	109
Marsh (Manokin River)	7	38 08	75 53	Somerset	20	42
Marshall	34	38 44	76 12	Talbot	162	107
Marshy	32	38 57	76 14	Queen Annes	85	79
Martin (St. Marys River)	24	38 12	76 27	St. Marys	77	84
Martin (Tred Avon River)	34	38 43	76 09	Talbot	186	117
Mary	37	38 32	76 12	Dorchester	56	74
Maryland	36, 37, 38	38 29	76 17	Dorchester	73	58
Maryland-Virginia (Life-Saving Station Beach)	15	38 02	75 15	Worcester	34	39
Maryland-Virginia (Pope Island)	15	38 02	75 15	Worcester	35	39
Maryland-Virginia (Railroad)	15	38 01	75 23	Worcester	36	42
Maslin	34, 35	38 40	76 08	Talbot	239	138
Matta	31	38 54	76 20	Queen Annes	50	65

[1] See Worcester County publication.

[2] See St. Marys County publication.

ALPHABETICAL INDEX TO TRIANGULATION STATIONS—Continued.

Name of station	Chart number of Maryland Oyster Chart on which shown	Approximate geographic location				County in which located	County index number by which indicated on Index Chart	Page of U. S. Coast and Geodetic Survey county publication of Survey of Oyster Bars on which locations are described
		Latitude		Longitude				
		°	′	°	′			
Matter	32	38	53	76	09	Talbot	6	56
May	34	38	44	76	08	Talbot	190	119
Mayo	3	38	55	76	31	Anne Arundel	84	92
Mean	34, 35	38	40	76	08	Talbot	240	138
Melfield	30	39	04	76	07	Queen Annes	23	45
Melon	34	38	45	76	07	Talbot	197	121
Melton	30	39	08	76	04	Kent	83	82
M. E. Church (Solomons)	20	38	19	76	28	Calvert	23	53
M. E. Church (Tilghman Island)	33	38	42	76	20	Talbot	88	80
Miles	7	38	06	76	00	Somerset	16	41
Mileys	25	38	16	76	43	St. Marys	158	110
Mill (Langford Creek)	30	39	08	76	11	Kent	51	64
Mill (Patuxent River)	20	38	20	76	30	St. Marys	15	51
Mill (Chincoteague Bay)	15	38	03	75	20	Worcester	33	42
Miller	34	38	47	76	16	Talbot	110	90
Millwind	32	38	48	76	13	Talbot	67	72
Mink	34	38	47	76	17	Talbot	103	89
Mint	39	38	21	76	14	Dorchester	87	85
Mistle	34	38	43	76	08	Talbot	215	129
Mitchell	37	38	33	76	15	Dorchester	35	66
Mitchells Bluff 2	28	39	13	76	14	Kent	3	29
Moke	34, 35	38	40	76	07	Talbot	236	137
Money	15	38	01	75	23	Virginia	16	[1] 41
Monkey	9	37	57	75	48	Somerset	49	52
Moon	7	38	04	75	48	Somerset	37	45
Moore	36, 37, 38	38	30	76	17	Dorchester	79	59
Morn	32	38	53	76	08	Queen Annes	127	96
Morsel	19	38	29	76	39	Calvert	42	39
Mos	10	37	54	75	46	Virginia	10	[2] 54
Mouldy	25	38	16	76	38	St. Marys	122	97
Mount Pleasant Church	9	37	59	75	51	Somerset	44	49
Mount Vernon M. E. Church	5	38	15	75	50	Somerset	4	35
Mt. Zion M. E. Church Spire	39, 40	38	19	76	14	Dorchester	91	87
Mouth	31	38	52	76	20	Queen Annes	49	64
Mud (Tred Avon River)	34	38	42	76	09	Talbot	219	130
Mud (Sinepuxent Bay)	13	38	15	75	08	Worcester	18	33
Muddy	29, 30	38	59	76	14	Queen Annes	37	36
Mutton	34	38	41	76	11	Talbot	178	114
Myrtle (Choptank River)	35	38	39	75	58	Dorchester	1	44
Myrtle (Broad Creek)	34	38	44	76	16	Talbot	124	93
Nanti	12	38	14	75	54	Wicomico	8	29
Nanticoke Church	11, 12	38	16	75	54	Wicomico	6	26
Narrows	33	38	43	76	19	Talbot	92	81
Narrows Point	29, 30	39	01	76	13	Kent	20	40
Nat (Langford Creek)	30	39	08	76	11	Kent	50	64
Nat (Patuxent River)	20	38	21	76	30	St. Marys	14	50
Neck (Langford Creek)	30	39	07	76	10	Kent	70	72
Neck (Tred Avon River)	34	38	45	76	07	Talbot	192	120
Neck (Chincoteague Bay)	13	38	14	75	12	Worcester	23	35
Ned	34	38	44	76	17	Talbot	129	95

[1] See Worcester County publication.

[2] See Somerset County publication.

ALPHABETICAL INDEX TO TRIANGULATION STATIONS—Continued.

Name of station	Chart number of Maryland Oyster Chart on which shown	Approximate geographic location				County in which located	County index number by which indicated on Index Chart	Page of U. S. Coast and Geodetic Survey county publication of Survey of Oyster Bars on which locations are described
		Latitude		Longitude				
		°	′	°	′			
Needle	31	38	54	76	17	Queen Annes	72	74
Neil	37	38	32	76	11	Dorchester	57	74
Nellys	13	38	16	75	09	Worcester	14	32
Nelson 3	34	38	42	76	16	Talbot	122	92
Neptune	34	38	47	76	15	Talbot	145	101
Nest	30	39	08	76	09	Kent	58	67
Neva	34	38	44	76	09	Talbot	197	118
New	20	38	20	76	28	Calvert	25	51
New Barn Cupola	32	38	56	76	16	Queen Annes	80	78
Newport	13	38	14	75	14	Worcester	24	36
Newtown	25	38	14	76	42	St. Marys	138	103
Nils	([1])	39	10	76	04	Kent	88	86
No	32	38	55	76	10	Queen Annes	100	85
No Road	30	39	06	76	13	Kent	32	52
Noblee	38	38	29	76	17	Dorchester	74	81
Nodim	32	38	53	76	10	Talbot	9	57
Noname	25	38	16	76	38	St. Marys	129	96
Norman (Honga River)	40	38	15	76	06	Dorchester	112	92
Norman (Eastern Bay)	32	38	55	76	16	Queen Annes	76	76
North	39	38	21	76	16	Dorchester	88	85
North Beach Life Saving Station.	13, 14	38	12	75	09	Worcester	21	35
North Church Spire (Smith Island)	8	38	00	76	02	Somerset	56	47
North Point (Old Tower Foundation)	27	39	12	76	27	Baltimore	3	26
Nose	32	38	52	76	12	Queen Annes	92	82
Noth	30	39	08	76	09	Kent	56	66
Nub	32	38	53	76	08	Queen Annes	129	97
Nut	4	38	48	76	31	Anne Arundel	106	99
Oak	24	38	07	76	25	St. Marys	52	66
Ocean	13	38	19	75	05	Worcester	4	27
Ocean City Water Tower	13	38	20	75	05	Worcester	2	26
Oil	10	37	57	75	41	Virginia	13	[2] 54
Okahanikan	42	38	11	76	05	Dorchester	94	104
Okay	41	38	18	75	56	Dorchester	127	97
Old	10	37	58	75	41	Somerset	51	52
Old Church Spire (Smith Island)	8	37	59	76	03	Somerset	57	47
Ollie	32	38	49	76	12	Talbot	24	64
Oppkit	19	38	27	76	39	St. Marys	6	41
Orb	32	38	53	76	12	Queen Annes	94	83
Orchard	28, 29	39	09	76	16	Kent	15	36
Otto	32, 34	38	47	76	16	Talbot	109	75
Out	24	38	07	76	24	St. Marys	46	67
Over	32	38	56	76	16	Queen Annes	75	76
Overton	30	39	02	76	12	Kent	22	45
Owe	32	38	54	76	10	Queen Annes	97	84
Oyster (Chester River)	30	39	08	76	06	Kent	81	80
Oysters (Wye River)	32	38	55	76	10	Queen Annes	101	86
Pagan	24	38	11	76	27	St. Marys	84	81
Parker (Herring Bay)	4	38	46	76	32	Anne Arundel	108	100
Parker (Chesapeake Bay)	17	38	32	76	31	Calvert	8	30

[1] See progress map of Kent County publication.

[2] See Somerset County publications.

ALPHABETICAL INDEX TO TRIANGULATION STATIONS—Continued.

Name of station	Chart number of Maryland Oyster Chart on which shown	Approximate geographic location				County in which located	County index number by which indicated on Index Chart	Page of U. S. Coast and Geodetic Survey county publication of Survey of Oyster Bars on which locations are described
		Latitude		Longitude				
		°	′	°	′			
Parsons	32	38	54	76	15	Queen Annes	77	77
Parsons Island Water Tank	32	38	55	76	15	Queen Annes	78	77
Pat	20	38	22	76	23	Calvert	16	57
Patch	17	38	33	76	31	Calvert	7	29
Paul (Honga River)	40	38	17	76	07	Dorchester	109	91
Paul (Little Choptank River)	(1)	38	32	76	10	Dorchester	59	75
Paw	25	38	16	76	40	St. Marys	134	99
Peach	30	39	06	76	10	Kent	72	72
Peach Hill	2	39	05	76	25	Anne Arundel	5	70
Peak	19	38	25	76	31	Calvert	34	45
Pearson	32	38	51	76	15	Talbot	72	74
Peary	34	38	43	76	14	Talbot	169	110
Peck	34	38	42	76	10	Talbot	182	116
Peebee	34	38	44	76	07	Talbot	191	119
Pen (Chesapeake Bay)	17	38	34	76	31	Calvert	6	29
Pen (Manokin River)	(2)	38	09	75	47	Somerset	27	43
Peoples Chapel	33	38	43	76	20	Talbot	91	81
Perry	26	38	21	76	50	St. Marys	178	119
Phil (Magothy River)	1	39	05	76	26	Anne Arundel	10	69
Phil (Little Choptank River)	37	38	34	76	13	Dorchester	42	69
Philip (Langford Creek)	30	39	09	76	09	Kent	64	69
Philip (Wye River)	32	38	53	76	09	Queen Annes	125	96
Photo	19	38	26	76	36	Calvert	38	42
Pick	32	38	52	76	08	Talbot	1	54
Pier (Chesapeake Bay)	16, 17	38	36	76	30	Calvert	5	28
Pier (Smith Creek)	24	38	07	76	24	St. Marys	42	64
Pine (Bretons Bay)	25	38	16	76	38	St. Marys	123	96
Pine (Broad Creek)	34	38	45	76	16	Talbot	132	96
Piney	32	38	53	76	12	Queen Annes	95	83
Piney Point Light	24	38	08	76	32	St. Marys	113	94
Pink	34	38	47	76	16	Talbot	111	90
Pipe	24	38	07	76	24	St. Marys	41	65
Place	25	38	17	76	42	St. Marys	149	113
Plain	34	38	43	76	09	Talbot	184	116
Plow	34	38	43	76	07	Talbot	209	126
Plum 3	16	38	37	76	31	Calvert	4	28
Poco	34, 35	38	40	76	07	Talbot	237	137
Point	2	39	02	76	31	Anne Arundel	40	79
Point Agin	21	38	11	76	21	St. Marys	28	60
Point Look-in	22	38	06	76	20	St. Marys	33	61
Point Lookout Light	22, 23	38	02	76	19	St. Marys	35	62
Point No Point	22	38	09	76	19	St. Marys	29	60
Point No Point Light	22	38	08	76	17	St. Marys	30	60
Point of Rocks	18	38	25	76	25	Calvert	13	31
Pole	11	38	18	75	54	Wicomico	3	26
Pomona	30	39	09	76	05	Kent	84	83
Pond	24	38	08	76	28	St. Marys	92	71
Pont	34	38	42	76	14	Talbot	172	112

[1] See progress map in Dorchester County publications.

[2] See progress map in Somerset County publications.

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		Latitude		Longitude				
		°	′	°	′			
Pooles Island 2	27, 28	39	17	76	16	Harford	2	[1] 23
Pooles Island Light	27, 28	39	17	76	16	Harford	1	[1] 23
Pope Island Life Saving Station	15	38	01	75	15	Virginia	20	[2] 40
Poplar	18	38	29	76	29	Calvert	10	30
Poplar South	33	38	45	76	23	Talbot	79	77
Potato	34, 35	38	41	76	07	Talbot	232	135
Potomac	22, 23	38	03	76	19	St. Marys	34	62
Pov	37, 38	38	30	76	16	Dorchester	71	80
Prec	26	38	16	76	49	St. Marys	171	124
Price	24	38	08	76	28	St. Marys	94	87
Prickly	7	38	05	75	52	Somerset	34	45
Prince	19, 26	38	32	76	41	Prince George	1	[3] 33
Princess	32	38	53	76	09	Queen Annes	124	95
Profound	25	38	17	76	43	St. Marys	157	111
Protestant	25	38	15	76	41	St. Marys	118	101
Prussian	30	39	06	76	13	Kent	29	51
Purse	2	39	03	76	26	Anne Arundel	22	73
Quaker	30	39	06	76	10	Kent	74	74
Quarter	32	38	53	76	09	Talbot	8	57
Rabbit	34	38	46	76	17	Talbot	101	88
Raccoon	35	38	38	75	59	Talbot	264	159
Radcliffe	34	38	46	76	07	Talbot	195	121
Radec	25	38	17	76	43	St. Marys	156	112
Rag	11	38	18	75	54	Wicomico	5	26
Ragged Point 3	36, 37	38	32	76	17	Dorchester	31	57
Rail (Swan Creek)	28	39	09	76	15	Kent	12	34
Railroad	29, 32	38	58	76	14	Queen Annes	84	36
Rails (St. Clement Bay)	25	38	15	76	43	St. Marys	142	107
Railway Water Tank	29	39	02	76	19	Queen Annes	40	33
Rain	30	39	01	76	12	Kent	21	44
Raley	24	38	09	76	26	St. Marys	58	72
Ran 2	24	38	08	76	25	St. Marys	49	68
Ray	34	38	45	76	14	Talbot	150	102
Reach Hammock	9	37	53	75	59	Virginia	7	[4] 48
Rear	35	38	35	76	02	Talbot	257	156
Red	35	38	37	76	05	Talbot	254	154
Red Beacon (1908)	24	38	06	76	24	St. Marys	39	63
Rede	36, 37	38	31	76	20	Dorchester	83	60
Reed (Chesapeake Bay)	21	38	12	76	22	St. Marys	27	59
Reeds (Chester River)	30	39	04	76	10	Queen Annes	28	42
Revell	2	39	04	76	28	Anne Arundel	21	73
Rhode	3	38	52	76	31	Anne Arundel	94	95
Rice	35	38	38	76	07	Talbot	248	152
Rich Neck Water Tank	31, 32	38	51	76	16	Talbot	74	40
Ricks	14	38	10	75	16	Worcester	26	38
Rieman	32	38	48	76	12	Talbot	34	68
Right	32	38	53	76	08	Talbot	3	55
Ring	29	39	01	76	19	Queen Annes	43	32
Ritter	34, 35	38	41	76	07	Talbot	233	136
River Springs Catholic Chapel Cross	25, 26	38	15	76	46	St. Marys	165	126

[1] See Baltimore County publication.
[2] See Worcester County publication.
[3] See Calvert County publication.
[4] See Somerset County publication

ALPHABETICAL INDEX TO TRIANGULATION STATIONS—Continued.

Name of station	Chart number of Maryland Oyster Chart on which shown	Approximate geographic location				County in which located	County index number by which indicated on Index Chart	Page of U. S. Coast and Geodetic Survey county publication of Survey of Oyster Bars on which locations are described
		Latitude		Longitude				
		°	′	°	′			
Riverview	34, 35	38	42	76	11	Talbot	221	13
Roar	12	38	16	75	55	Wicomico	7	28
Roast	41	38	17	76	02	Dorchester	116	94
Robertson (Chester River)	(1)	39	10	76	03	Kent	90	87
Robertson (Tred Avon River)	34	38	44	76	08	Talbot	188	118
Robertson Windmill	(1)	39	10	76	03	Kent	89	86
Robins	36, 37	38	34	76	19	Dorchester	30	56
Robrecht	24	38	09	76	30	St. Marys	106	90
Rock	24	38	10	76	26	St. Marys	65	75
Rock Point	1, 27	39	10	76	29	Anne Arundel	1	67
Rock Point Catholic Church Cross	26	38	16	76	50	Charles	16	31
Rod (Priest's House)	24	38	09	76	26	St. Marys	57	71
Rod (Harris Creek)	32, 34	38	48	76	16	Talbot	108	75
Rolphs	(2)	39	10	76	02	Queen Annes	1	62
Roof	25	38	14	76	43	St. Marys	141	107
Room	5	38	11	75	56	Somerset	10	37
Rose	34	38	45	76	14	Talbot	137	98
Ross (Little Choptank River)	37	38	33	76	13	Dorchester	41	68
Ross (Broad Creek)	34	38	44	76	14	Talbot	167	109
Royal	34	38	46	76	14	Talbot	148	102
Roys	34	38	42	76	14	Talbot	170	111
Run	17, 18	38	30	76	30	Calvert	9	30
Russell	24	38	09	76	31	St. Marys	105	91
Ruth	30	39	05	76	07	Queen Annes	24	45
St. Anne's Church Spire	2	38	59	76	30	Anne Arundel	59	85
St. Catherine	26	38	14	76	48	St. Marys	167	127
St. Clement	25	38	14	76	43	St. Marys	140	106
St. George 4	24	38	06	76	29	St. Marys	112	93
St. Inigoes Church Cross	24	38	09	76	25	St. Marys	59	73
St. Jerome	22	38	07	76	20	St. Marys	31	61
St. John's College Cupola	2	38	59	76	30	Anne Arundel	61	85
St. Margaret 2	26	38	15	76	49	St. Marys	170	125
St. Michael Catholic Church Spire	22	38	07	76	22	St. Marys	32	61
St. Michaels P. E. Church Spire	34	38	47	76	13	Talbot	65	140
St. Michaels Water Tank	32, 34	38	47	76	14	Talbot	66	72
St. Patrick	25	38	14	76	44	St. Marys	162	106
St. Pierre	7	38	08	75	51	Somerset	21	42
St. Thomas Church Spire	40	38	16	76	04	Dorchester	111	92
Sacred Heart Church Spire (Bushwood)	26	38	18	76	48	St. Marys	174	122
Salt (Severn River)	2	39	01	76	32	Anne Arundel	52	83
Salt (Sinepuxent River)	13	38	14	75	09	Worcester	20	34
Sam	9	37	55	75	53	Somerset	46	50
Samuel (Cox Creek)	31	38	57	76	20	Queen Annes	58	68
Samuel (Broad Creek)	34	38	46	76	13	Talbot	156	105
Sand	20	38	19	76	27	Calvert	22	54
Sandbar	25	38	15	76	42	St. Marys	137	102
Sandy	5, 7	38	08	75	49	Somerset	23	39

[1] See progress map in Kent County publication.

[2] See progress map in Queen Annes County publication.

ALPHABETICAL INDEX TO TRIANGULATION STATIONS—Continued.

Name of station	Chart number of Maryland Oyster Chart on which shown	Approximate geographic location				County in which located	County index number by which indicated on Index Chart	Page of U. S. Coast and Geodetic Survey county publication of Survey of Oyster Bars on which locations are described
		Latitude		Longitude				
		°	′	°	′			
Sandy Point Light	2	39	01	76	23	Anne Arundel	25	74
Sang	32	38	53	76	10	Queen Annes	120	94
Sanpoi	13	38	15	75	09	Worcester	17	33
Sara	32	38	49	76	14	Talbot	70	73
Saw	35	38	37	75	58	Dorchester	4	45
Saxis Church Spire	10	37	55	75	43	Virginia	12	[1] 54
Schoolhouse Cupola	33	38	43	76	20	Talbot	90	81
Scot	10	37	58	75	44	Somerset	50	52
Search	34	38	47	76	10	Talbot	40	142
Seaside	13	38	18	75	06	Worcester	9	29
Second	32	38	48	76	12	Talbot	27	65
Selby	3	38	55	76	30	Anne Arundel	85	93
Senator	5, 6, 7	38	08	76	01	Somerset	15	27
Seth (Little Choptank River)	37	38	34	76	11	Dorchester	48	71
Seth (Miles River)	32	38	50	76	15	Talbot	71	74
Seven Foot Knoll Light	1, 27	39	09	76	25	Anne Arundel	2	68
Shanks Hummock 2	8	37	55	76	03	Virginia	4	[1] 47
Sharkfin Shoal Light	41	38	12	75	59	Dorchester	124	103
Sharp	2	39	03	76	34	Anne Arundel	46	81
Sharps Island Light	33, 36	38	38	76	23	Talbot	85	79
Shaw	32	38	52	76	11	Talbot	17	60
Shehan	24	38	10	76	31	St. Marys	101	92
Shell (West River)	3	38	51	76	32	Anne Arundel	97	96
Shell (Choptank River)	35	38	35	76	00	Dorchester	9	48
Sheridan	19	38	28	76	39	Calvert	41	40
Ship	30	39	05	76	07	Queen Annes	21	46
Shippen	30	39	07	76	06	Kent	80	79
Shipping	25	38	16	76	43	St. Marys	159	109
Shoal	35	38	34	76	03	Dorchester	12	49
Shore	13	38	16	75	07	Worcester	13	31
Short	5	38	12	75	53	Somerset	9	37
Show	34, 35	38	41	76	07	Talbot	234	136
Sig	22, 24	38	06	76	24	St. Marys	38	63
Sillery	1, 2	39	05	76	27	Anne Arundel	9	69
Skid	36, 37, 38	38	30	76	20	Dorchester	82	60
Skinner	34	38	45	76	15	Talbot	135	97
Sleep	24	38	10	76	25	St. Marys	64	76
Slim	19	38	25	76	35	Calvert	37	43
Smack	24	38	07	76	28	St. Marys	110	86
Smith	33	38	46	76	19	Talbot	96	83
Smith Point Light	8, 23	37	53	76	11	Virginia	3	[2] 63
Smoke	24	38	10	76	25	St. Marys	62	75
Snout	32	38	52	76	11	Queen Annes	113	91
Snub	30	39	06	76	11	Kent	39	59
Soak	24	38	12	76	28	St. Marys	80	84
Sollers	19, 20	38	23	76	30	Calvert	31	47
Solomon	37	38	34	76	12	Dorchester	47	70
Solomons Lump Light	6, 7	38	03	76	01	Somerset	17	39
Some	31	38	55	76	20	Queen Annes	52	66
Somers Cove Light	9	37	58	75	53	Somerset	42	49
Sothoron	19	38	30	76	40	St. Marys	1	37
Sound	26	38	15	76	47	St. Marys	169	126

[1] See Somerset County publication.

[2] See St. Marys County publication.

ALPHABETICAL INDEX TO TRIANGULATION STATIONS—Continued.

Name of station	Chart number of Maryland Oyster Chart on which shown	Approximate geographic location				County in which located	County index number by which indicated on Index Chart	Page of U. S. Coast and Geodetic Survey county publication of Survey of Oyster Bars on which locations are described
		Latitude		Longitude				
		°	′	°	′			
South (Barren Island)	39	38	20	76	16	Dorchester	90	85
South (Wye River)	32	38	52	76	11	Queen Annes	114	91
Southeast	(1)	39	10	76	03	Queen Annes	2	61
Southern M. E. Church	33	38	42	76	21	Talbot	83	78
Spaniard Pt. 2 Upper	30	39	06	76	09	Queen Annes	17	48
Spar	32	38	49	76	13	Talbot	69	73
Spencer	34	38	45	76	13	Talbot	161	107
Spike	28	39	09	76	15	Kent	11	33
Spin	34	38	43	76	09	Talbot	185	117
Spindle	35	38	37	75	59	Talbot	262	158
Spit	2	38	59	76	26	Anne Arundel	29	76
Spree	34	38	47	76	10	Talbot	43	143
Spring (Severn River)	2	39	01	76	30	Anne Arundel	37	78
Spring (Grays Inn Creek)	30	39	06	76	13	Kent	26	49
Stab	34	38	45	76	07	Talbot	193	120
Staff	7	38	08	75	50	Somerset	32	44
Star	32	38	53	76	11	Queen Annes	111	90
Starkley	30	39	08	76	05	Queen Annes	10	55
Start	2	38	58	76	28	Anne Arundel	63	86
State House Dome	2	38	59	76	29	Anne Arundel	58	85
Steve	31	38	57	76	19	Queen Annes	61	69
Stevens	29	39	07	76	15	Kent	18	38
Sticky	34	38	42	76	14	Talbot	173	112
Stock	20	38	22	76	31	St. Marys	12	48
Stoddard	26	38	22	76	51	Charles	7	25
Stones	25	38	18	76	43	St. Marys	151	116
Stony	34	38	47	76	12	Talbot	64	150
Stop	32	38	53	76	12	Queen Annes	93	82
Straight (Eastern Bay)	31	38	51	76	20	Queen Annes	48	64
Straits (St. George River)	24	38	08	76	30	St. Marys	108	88
Stratton	30	39	06	76	08	Kent	76	75
Straw	34, 35	38	40	76	09	Talbot	227	133
Streett	11	38	21	75	53	Dorchester	130	99
Stretch	34	38	44	76	08	Talbot	189	119
Stump	20	38	22	76	29	Calvert	29	48
Stung	24	38	07	76	25	St. Marys	51	67
Summer	10	37	56	75	40	Virginia	14	[2] 53
Swan (Severn River)	2	39	03	76	32	Anne Arundel	43	80
Swan (St. George River)	24	38	08	76	30	St. Marys	107	89
Swan Point 3	28	39	09	76	17	Kent	4	31
Sweep	19	38	25	76	33	Calvert	36	44
Swep	37	38	33	76	13	Dorchester	53	73
Swepson	30	39	05	76	08	Queen Annes	19	47
Swing	32	38	48	76	12	Talbot	25	64
Switch	3	38	56	76	31	Anne Arundel	72	89
Sylvia	32	38	52	76	10	Talbot	11	58
Tab	24	38	07	76	25	St. Marys	53	64
Taft	34	38	45	76	13	Talbot	159	106
Tail	2	39	04	76	31	Anne Arundel	18	72
Tall	34	38	42	76	09	Talbot	183	116
Tang	34	38	47	76	09	Talbot	46	145
Tar	34	38	43	76	10	Talbot	181	115
Tarkhill	24	38	09	76	30	St. Marys	98	90

[1] See progress map in Queen Annes County publication.

[2] See Somerset County publication.

ALPHABETICAL INDEX TO TRIANGULATION STATIONS—Continued.

Name of station	Chart number of Maryland Oyster Chart on which shown	Approximate geographic location				County in which located	County index number by which indicated on Index Chart	Page of U. S. Coast and Geodetic Survey county publication of Survey of Oyster Bars on which locations are described
		Latitude		Longitude				
		°	′	°	′			
Taste	30	39	09	76	05	Kent	85	84
Tavern	28	39	09	76	16	Kent	6	32
Taylor (South River)	3	38	57	76	34	Anne Arundel	78	91
Taylor (Slaughter Creek)	38	38	28	76	18	Dorchester	76	82
Taylor (St. George River)	24	38	08	76	30	St. Marys	97	89
Teague	26	38	32	76	40	Charles	2	36
Tenk	31	38	50	76	22	Queen Annes	47	64
Tenuate	24	38	12	76	27	St. Marys	81	83
Terrapin	7	38	01	75	58	Somerset	18	40
Thelma	34	38	46	76	14	Talbot	153	104
Then	31	38	55	76	20	Queen Annes	51	65
Thin	29	38	59	76	15	Queen Annes	38	35
Thomas	3	38	54	76	27	Anne Arundel	68	88
Thomas Point Shoal Light	3	38	54	76	26	Anne Arundel	69	88
Thompson (Cox Creek)	31	38	57	76	19	Queen Annes	62	69
Thompson (St. Marys River)	24	38	09	76	28	St. Marys	91	72
Thorn	30	39	07	76	07	Kent	79	78
Thoro	41	38	20	76	01	Dorchester	119	95
Thorofare	(1)	38	21	75	06	Worcester	37	24
Thorsten	(2)	39	10	76	03	Kent	91	87
Timber	31	38	57	76	18	Queen Annes	66	71
Tizz	15	38	04	75	20	Worcester	32	43
Tobacco Stick	37	38	32	76	14	Dorchester	69	79
Tobe	34	38	45	76	15	Talbot	126	94
Tobine	32	38	53	76	10	Queen Annes	119	93
Toddville M. E. Church Spire	40	38	18	76	04	Dorchester	117	91
Toe	34	38	43	76	08	Talbot	206	125
Tolly	3	38	57	76	27	Anne Arundel	65	86
Tom (Little Choptank River)	37	38	32	76	12	Dorchester	62	76
Tom (Cox Creek)	31	38	56	76	19	Queen Annes	69	72
Tomakokin	25	38	18	76	44	St. Marys	154	114
Ton	20	38	21	76	28	Calvert	27	50
Toot	35	38	36	76	08	Dorchester	21	52
Top	31	38	55	76	19	Queen Annes	54	67
Torrey	36, 37, 38	38	30	76	16	Dorchester	72	57
Town (Little Choptank River)	37	38	33	76	13	Dorchester	52	72
Town (Patuxent River)	20	38	19	76	29	St. Marys	17	52
Town (Tred Avon River)	34	38	42	76	10	Talbot	220	131
Trappe	35	38	38	76	07	Talbot	246	151
Travers 2	38	38	28	76	20	Dorchester	85	83
Tray	30	39	06	76	12	Kent	36	53
Treasure	28, 29	39	09	76	15	Kent	14	36
Tred	34	38	42	76	11	Talbot	179	115
Trees	25	38	16	76	39	St. Marys	133	98
Trent	19	38	29	76	40	St. Marys	3	39
Trippe	34	38	43	76	08	Talbot	207	125
Tug	34	38	47	76	10	Talbot	41	142
Tull	31	38	56	76	17	Queen Annes	74	74

[1] See progress map in Kent County publication.

[2] See progress map in Worcester County publication.

ALPHABETICAL INDEX TO TRIANGULATION STATIONS—Continued.

Name of station	Chart number of Maryland Oyster Chart on which shown	Approximate geographic location		County in which located	County index number by which indicated on Index Chart	Page of U. S. Coast and Geodetic Survey county publication of Survey of Oyster Bars on which locations are described
		Latitude	Longitude			
		° ′	° ′			
Turf (Rhode River)	3	38 53	76 31	Anne Arundel	92	95
Turf (St. Clement Bay)	25	38 18	76 43	St. Marys	152	115
Turkey	31	38 54	76 18	Queen Annes	71	73
Turn	32	38 53	76 10	Queen Annes	121	94
Turnagain	14, 15	38 05	75 13	Worcester	30	37
Tuxon	31	38 57	76 19	Queen Annes	60	69
Twin	34	38 43	76 08	Talbot	205	125
Twist	32	38 53	76 10	Queen Annes	107	88
Twixt	32	38 53	76 11	Queen Annes	110	90
Two	32	38 49	76 11	Talbot	30	66
Up	35	38 39	75 58	Talbot	266	159
Upper	26	38 22	76 52	Charles	6	24
Urie	28	39 09	76 15	Kent	9	33
Valley	25	38 17	76 38	St. Marys	126	94
Valliant	33	38 46	76 23	Talbot	78	76
Veith	36, 37, 38	38 30	76 17	Dorchester	80	59
Venture	34	38 43	76 07	Talbot	208	126
Venus	34	38 46	76 15	Talbot	146	101
Villa (Miles River)	32	38 48	76 07	Talbot	51	71
Ville (Cox Creek)	31	38 57	76 18	Queen Annes	67	71
Vine	33, 34	38 46	76 18	Talbot	98	83
Vue	34	38 42	76 13	Talbot	174	113
Wab	[1]	38 09	75 47	Somerset	26	43
Waggaman	3	38 57	76 32	Anne Arundel	74	89
Waggaman Windmill	3	38 57	76 32	Anne Arundel	73	89
Wall (St. George River)	24	38 09	76 31	St. Marys	104	92
Wall (Tred Avon River)	34	38 44	76 07	Talbot	201	123
Walnut	5	38 15	75 48	Somerset	1	33
Wann	30	39 08	76 09	Kent	68	71
Wap	33	38 42	76 21	Talbot	82	78
War	35	38 36	75 58	Dorchester	6	46
Ware	31	38 56	76 19	Queen Annes	55	67
Warrior	33	38 45	76 18	Talbot	118	85
Wash	29, 31	38 58	76 21	Queen Annes	44	[2] 75
Water	34	38 45	76 07	Talbot	194	120
Water Tower (Porto Bello)	24	38 11	76 27	St. Marys	87	78
Waterloo	26	38 14	76 47	St. Marys	166	127
Watermelon Hummock	9	37 57	75 50	Somerset	47	51
Weather Bureau Staff	34, 35	38 41	76 10	Talbot	222	131
Weave	34	38 43	76 09	Talbot	204	124
Weeks	30	39 05	76 12	Kent	25	49
Weems	2	39 00	76 30	Anne Arundel	54	84
Weiss	26	38 17	76 49	St. Marys	173	123
Welch	2	39 04	76 26	Anne Arundel	7	70
West	30	39 08	76 10	Kent	52	64
West Hollow	24	38 12	76 27	St. Marys	83	82
Westcotts Windmill	30	39 07	76 07	Kent	77	76
Whale (Langford Creek)	30	39 09	76 11	Kent	47	63
Whale (Wye River)	32	38 53	76 08	Talbot	5	56
Wharf (Saxis Pier)	10	37 56	75 44	Virginia	11	[3] 54
What	25	38 15	76 40	St. Marys	119	100

[1] See progress map in Somerset County publication.
[2] See Anne Arundel County publication.
[3] See Somerset County publication.

ALPHABETICAL INDEX TO TRIANGULATION STATIONS—Continued.

Name of station	Chart number of Maryland Oyster Chart on which shown	Approximate geographic location				County in which located	County index number by which indicated on Index Chart	Page of U. S. Coast and Geodetic Survey county publication of Survey of Oyster Bars on which locations are described
		Latitude		Longitude				
		°	′	°	′			
Wheat	19, 20	38	23	76	31	Calvert	33	46
Wheel	32	38	53	76	08	Queen Annes	130	98
Whit	34	38	47	76	09	Talbot	44	144
White	12	38	14	75	54	Wicomico	9	29
White House (N. E. Chimney)	18, 20	38	23	76	24	Calvert	15	32
Whitehall	35	38	35	76	00	Dorchester	10	48
Whitewash	36, 37, 38	38	29	76	17	Dorchester	78	58
Wick	35	38	37	75	58	Dorchester	5	45
Wickes Beach	29	39	02	76	15	Kent	19	40
Wide	32	38	53	76	10	Queen Annes	108	98
Wildcat	15	37	59	75	19	Virginia	19	[1] 40
Will	10	37	57	75	40	Somerset	52	53
Willey	34	38	45	76	14	Talbot	151	103
Willis	34	38	47	76	15	Talbot	144	100
Wilmers	([2])	39	10	76	03	Queen Annes	3	60
Wilson 2	18	38	26	76	27	Calvert	12	31
Wind	5	38	14	75	52	Somerset	6	35
Windmill 2	40	38	16	76	09	Dorchester	108	91
Windmill Point	29	39	08	76	15	Kent	17	37
Wire	34	38	44	76	16	Talbot	127	94
Woll	30	39	08	76	09	Kent	59	67
Won	32	38	52	76	12	Queen Annes	91	81
Wood (Miles River)	32	38	50	76	12	Talbot	22	63
Woodill	34	38	46	76	15	Talbot	141	99
Woods (St. Clement Bay)	25	38	15	76	43	St. Marys	160	108
Wool	37	38	31	76	15	Dorchester	70	80
Worton Point 2	28	39	19	76	11	Kent	1	28
Wroten	40	38	19	76	11	Dorchester	104	89
Ximo	3	38	57	76	33	Anne Arundel	76	90
Yazoo	3	38	57	76	34	Anne Arundel	77	90

[1] See Worcester County publication.

[2] See progress map in Queen Annes County publication.

U. S. COAST AND GEODETIC SURVEY TRIANGULATION STATIONS.

NUMERICAL INDEX.

NOTE.—See Alphabetical Index for other references relating to triangulation stations.

ANNE ARUNDEL COUNTY.

County index number indicating station on Index Chart	Name of station	County index number indicating station on Index Chart	Name of station	County index number indicating station on Index Chart	Name of station
1	Rock Point	39	Chase (Severn River)	74	Waggaman
2	Seven Foot Knoll Light	40	Point	75	Ginger
		41	Bight	76	Ximo
3	Bodkin Point (Old Tower)	42	Arnold	77	Yazoo
		43	Swan (Severn River)	78	Taylor (South River)
4	Locust (Chesapeake Bay)	44	High (Severn River)	79	Larramore
		45	Cedar (Severn River)	80	Brewer (South River)
5	Peach Hill.	46	Sharp	81	Almshouse (Lightning Rod)
6	Baltimore Light	47	Long (Severn River)		
7	Welch.	48	Island (Severn River)	82	Almshouse
8	Bluff (Magothy River)	49	Bay (Severn River)	83	Cedar (South River)
9	Sillery	50	Brewer (Severn River)	84	Mayo
10	Phil (Magothy River)	51	Clem	85	Selby
11	Bay (Magothy River)	52	Salt (Severn River)	86	Gowan
12	Hickory	53	Luce	87	Dutchman
13	Dobbins	54	Weems	88	Cato
14	Iron	55	Field	89	Delta (Rhode River)
15	Ham (Magothy River)	56	Hospital Cupola (Naval Academy)	90	Etna
16	Bank (Magothy River)			91	Calf
17	Horn (Magothy River)	57	Flag Staff (Naval Academy Boathouse)	92	Turf (Rhode River)
18	Tail			93	Cupola (Rhode River)
19	Ferry (Magothy River)	58	State House Dome	94	Rhode
20	Huddle	59	St. Anne's Church Spire	95	Ches
21	Revell			96	Alpha
22	Purse	60	Catholic Church Spire (Annapolis)	97	Shell (West River)
23	Magothy			98	Counallor
24	Corn (Chesapeake Bay)	61	St. John's College Cupola	99	Chalk
25	Sandy Point Light			100	Lerch Windmill
26	Bay Side	62	Horn (Severn River)	101	Apple
27	Clump (Chesapeake Bay)	63	Start	102	Cove
		64	Gram (Severn River)	103	Curtis
28	Hackett	65	Tolly	104	Horseshoe (Chesapeake Bay)
29	Spit	66	Bay Ridge Stack		
30	Chase (Whitehall Bay)	67	Cottage (Chesapeake Bay)	105	Franklin
31	Greenbury			106	Nut
32	Greenbury Point Light	68	Thomas	107	Broad (Chesapeake Bay)
33	Fort (Severn River)	69	Thomas Point Shoal Light		
34	Bluff (Severn River)			108	Parker (Herring Bay)
35	Brice	70	Arundel	109	Hopkins (Herring Bay)
36	Knob	71	Hill	110	Fairhaven
37	Spring (Severn River)	72	Switch	111	Holland (Chesapeake Bay)
38	Cool	73	Waggaman Windmill		

BALTIMORE COUNTY.

1	Craighill Channel Light (Rear Range)	3	North Point (Old Tower Foundation)	5	Fort Howard Taller Water Tank
2	Craighill Channel Light (Front Range)	4	Cutoff Channel Light (Front Range)	6	Cutoff Channel Light (Rear Range)

NUMERICAL INDEX TO TRIANGULATION STATIONS—Continued.

CALVERT COUNTY.

County index number indicating station on Index Chart	Name of station	County index number indicating station on Index Chart	Name of station	County index number indicating station on Index Chart	Name of station
1	Hog Point (Holland 3)	16	Pat	32	Mackall
2	Beach (Chesapeake Bay)	17	Drum Point Light	33	Wheat
		18	Bareda House Cupola	34	Peak
3	Ill 2	19	Bon	35	Island (Patuxent River)
4	Plum 3	20	Fishstack		
5	Pier (Chesapeake Bay)	21	K. of P. Flagstaff (Solomons)	36	Sweep
6	Pen (Chesapeake Bay)			37	Slim
7	Patch	22	Sand	38	Photo
8	Parker (Chesapeake Bay)	23	M. E. Church (Solomons)	39	Battle
				40	Kitt (Patuxent River)
9	Run	24	Catholic Church Cross	41	Sheridan
10	Poplar	25	New	42	Morsel
11	Flag Pond	26	Bur	43	Buzz
12	Wilson 2	27	Ton	44	Dwarf
13	Point of Rocks	28	Hellen	45	Hallowing
14	Cove Point Light	29	Stump	46	Buena
15	White House (N. E. Chimney)	30	Lend	47	Leitch
		31	Sollers		

CHARLES COUNTY.

1	Fodder	7	Stoddard	14	Charles (Wicomico River)
2	Teague	8	Hayden		
3	City	9	Burr	15	Hard
4	Catholic Church Cross (Benedict)	10	Bowman	16	Rock Point Catholic Church Cross
		11	Eedling		
5	Indian (Patuxent River)	12	Gust	17	Corner (Wicomico River)
		13	Hedney		
6	Upper			18	Cobb Point Bar Light

DORCHESTER COUNTY.

1	Myrtle (Choptank River)	19	Dicks Water Tank	40	Greenwell
		20	Howard (Choptank River)	41	Ross (Little Choptank River)
2	Hut				
3	House	21	Toot	42	Phil (Little Choptank River)
4	Saw	22	Le Compte		
5	Wick	23	Large Water Tank	43	Dupont
6	War	24	Castle	44	Beckwith
7	Gander	25	Corner (Choptank River)	45	Cherry Island Water Tank
8	Chief				
9	Shell (Choptank River)	26	Dot	46	Lee
		27	Chef	47	Solomon
10	Whitehall	28	Cook Point Windmill	48	Seth (Little Choptank River)
11	Ferry (Choptank River)	29	Brannock		
		30	Robins	49	Adam
12	Shoal	31	Ragged Point 3	50	Layton
13	E. Cambridge Spire	32	Hudson	51	David
14	E. Cambridge Tall Stack	33	Jenifer	52	Town (Little Choptank River)
		34	Henry		
15	Cambridge Stand Pipe	35	Mitchell	53	Swep
16	Cambridge	36	Back	54	Hugh
17	Hambrooks Bar Beacon	37	Bayly	55	Etta
		38	Carrie	56	Mary
18	Command	39	Louise	57	Neil

NUMERICAL INDEX TO TRIANGULATION STATIONS—Continued.

DORCHESTER COUNTY—Continued.

County index number indicating station on Index Chart	Name of station	County index number indicating station on Index Chart	Name of station	County index number indicating station on Index Chart	Name of station
58	Kirby	82	Skid	106	Lakes
59	Paul (Little Choptank River)	83	Rede	107	Asquith
		84	James (Chesapeake Bay)	108	Windmill 2
60	Church Creek (No 1 West)			109	Paul (Honga River)
		85	Travers 2	110	Duck (Honga River)
61	Austin	86	Dunnock	111	St. Thomas Church Spire
62	Tom (Little Choptank River)	87	Mint		
		88	North	112	Norman (Honga River)
63	Brooks	89	Hosier Memorial Church Spire	113	Hooper Strait Light
64	Doctor (Little Choptank River)			114	Head
		90	South (Barren Island)	115	Croch
65	Eleanor	91	Mt. Zion M. E. Church Spire	116	Roast
66	Laney			117	Toddville M. E. Church Spire
67	Mac	92	Hooper Island Light		
68	Madison Southern M. E. Church Spire	93	Applegarth	118	Farm
		94	Okahanikan	119	Thoro
69	Tobacco Stick	95	Holland Island Church Spire	120	High (Honga River)
70	Wool			121	Elliott
71	Pov	96	Crab	122	Ear
72	Torrey	97	Hopkins Memorial Church Cupola	123	Fish
73	Maryland			124	Sharkfin Shoal Light
74	Noblee	98	Hoopersville Methodist Church Cupola	125	Frog
75	Finish			126	Cow
76	Taylor (Slaughter Creek)	99	Bentley	127	Okay
		100	Bridge (Honga River)	128	Ar
77	Harrington	101	Gunners	129	Gover
78	Whitewash	102	Keenes	130	Streett
79	Moore	103	Kerwin		
80	Veith	104	Wroten		
81	Can	105	Charles (Honga River)		

HARFORD COUNTY.

1	Pooles Island Light	2	Pooles Island 2		

KENT COUNTY.

1	Worton Point 2	17	Windmill Point	31	Herring
2	Bramble	18	Stevens	32	No Road
3	Mitchells Bluff 2	19	Wickes Beach	33	Cut
4	Swan Point 3	20	Narrows Point	34	Fore
5	Bank (Swan Creek)	21	Rain	35	Island (Grays Inn Creek)
6	Tavern	22	Overton		
7	Fork	23	Bay Bush Point	36	Tray
8	Elliason	24	Little Gum	37	Inn
9	Urie	25	Weeks	38	Deep Cove
10	Corr	26	Spring (Grays Inn Creek)	39	Snub
11	Spike			40	Lawyer
12	Rail (Swan Creek)	27	Lucy	41	Drum (Langford Creek)
13	Haven	28	Goose (Grays Inn River)	42	Davis
14	Treasure			43	Isle
15	Orchard	29	Prussian	44	Eagle (Langford Creek)
16	Gratitude	30	Gray	45	Ford (Langford Creek)

NUMERICAL INDEX TO TRIANGULATION STATIONS—Continued.

KENT COUNTY—Continued.

County index number indicating station on Index Chart	Name of station	County index number indicating station on Index Chart	Name of station	County index number indicating station on Index Chart	Name of station
46	Kinsley	61	Clay	77	Westcotts Windmill
47	Whale (Langford Creek)	62	Lovely	78	Deep Point 2.
		63	Gut	79	Thorn.
48	Bungay	64	Philip (Langford Creek)	80	Shippen
49	Locust (Langford Creek)			81	Oyster (Chester River)
		65	Ide	82	Jarrett
50	Nat (Langford Creek)	66	Hoo	83	Melton
51	Mill (Langford Creek)	67	Cult	84	Pomona
52	West	68	Wann	85	Taste
53	Hornor	69	Corn (Langford Creek)	86	Make
54	King	70	Neck (Langford Creek)	87	Broad (Chester River)
55	Ash	71	Major	88	Nils
56	Noth	72	Peach	89	Robertson Windmill
57	Leary	73	Langford	90	Robertson (Chester River)
58	Nest	74	Quaker		
59	Woll	75	Brown	91	Thorsten
60	Harp	76	Stratton	92	Blank

PRINCE GEORGE COUNTY.

1	Prince				

QUEEN ANNES COUNTY.

1	Rolphs	30	Crow	59	Liver
2	Southeast	31	Bird	60	Tuxon
3	Wilmers	32	Gordon	61	Steve
4	Julius	33	Fir.	62	Thompson (Cox Creek)
5	Down	34	Break	63	Hope
6	Bill	35	Blakeford	64	Knock
7	Cake	36	Bluebeard	65	Landing
8	Journey	37	Muddy	66	Timber
9	Booker	38	Thin	67	Ville (Cox Creek)
10	Starkley	39	Macum	68	Greek
11	Burns	40	Railway Water Tank	69	Tom (Cox Creek)
12	Ashland	41	Amour	70	Dell
13	Indian (Chester River)	42	Love Point Light	71	Turkey
14	Corpse	43	Ring	72	Needle
15	Chester (Chester River)	44	Wash	73	Cox (Crab Alley Bay)
		45	Craney	74	Tull
16	Evans	46	Bloody Point Bar Light	75	Over
17	Spaniard Pt. (2 Upper)			76	Norman (Eastern Bay)
18	Corsica	47	Tenk	77	Parsons
19	Swepson	48	Straight (Eastern Bay)	78	Parsons Island Water Tank
20	Engineer	49	Mouth		
21	Ship	50	Matta	79	Alley
22	Bath	51	Then	80	New Barn Cupola
23	Melfield	52	Some	81	Dull
24	Ruth	53	Batts	82	Kirwan
25	Hydrographic	54	Top	83	Bridge (Kent Island Narrows)
26	Earle (Corsica River)	55	Ware		
27	Holton Point	56	Coffee	84	Railroad
28	Reeds (Chester River)	57	Here	85	Marshy
29	Grove (Reeds Creek)	58	Samuel (Cox Creek)	86	Bonnet

NUMERICAL INDEX TO TRIANGULATION STATIONS—Continued.

QUEEN ANNES COUNTY—Continued.

County index number indicating station on Index Chart	Name of station	County index number indicating station on Index Chart	Name of station	County index number indicating station on Index Chart	Name of station
87	Brian Reference Station	101	Oysters (Wye River)	116	Albert
88	Green (Eastern Bay)	102	Bee	117	Le Seur
89	Benn	103	Close	118	Attila
90	Hough	104	June	119	Tobine
91	Won	105	Chin	120	Sang
92	Nose	106	Aller	121	Turn
93	Stop	107	Twist	122	Go
94	Orb	108	Wide	123	Divide
95	Piney	109	Darce	124	Princess
96	Ferry (Wye River)	110	Twixt	125	Philip (Wye River)
97	Owe	111	Star	126	Granary
98	Hook	112	Leaven	127	Morn
99	Knee	113	Snout	128	Bush
100	No	114	South (Wye River)	129	Nub
		115	Flat (Wye River)	130	Wheel

ST. MARYS COUNTY.

1	Sothoron	37	Hall House (Middle Chimney)	72	Brome
2	Billiard			73	Calvert Monument
3	Trent	38	Sig	74	Episcopal Church Cross (Old St. Marys)
4	Collins	39	Red Beacon (1908)		
5	Cremona	40	Dago	75	Bend
6	Oppkit	41	Pipe	76	Horseshoe (St. Marys River)
7	Fight	42	Pier (Smith Creek)		
8	Forr	43	Enough	77	Martin (St. Marys River)
9	Cole	44	Drum (Smith Creek)		
10	Hutchins	45	In	78	Hammett
11	Bars	46	Out	79	McCoy
12	Stock	47	Jutland	80	Soak
13	Briscoe	48	Flagpole	81	Tenuate
14	Nat (Patuxent River)	49	Ran 2	82	Brief
15	Mill (Patuxent River)	50	Flat (Smith Creek)	83	West Hollow
16	Cable	51	Stung	84	Pagan
17	Town (Patuxent River)	52	Oak	85	Deep
		53	Tab	86	McKay
18	Crane	54	Day	87	Water Tower (Porto Bello)
19	Ben	55	Between		
20	Craddock	56	Fort (St. Marys River)	88	Bello
21	Carroll 2	57	Rod (Priest's House)	89	Coppage
22	Hog 2	58	Raley	90	Grind
23	Cedar Point Light	59	St. Inigoes Church Cross	91	Thompson (St. Marys River)
24	Cain				
25	Desert	60	Church	92	Pond
26	Ford (Chesapeake Bay)	61	Grason	93	Cherry
27	Reed(Chesapeake Bay)	62	Smoke	94	Price
28	Point Agin	63	Chestnut	95	Goose (St. George River)
29	Point No Point	64	Sleep		
30	Point No Point Light	65	Rock	96	Combs (Honga River)
31	St. Jerome	66	Dusky	97	Taylor (St. George River)
32	St. Michael Catholic Church Spire	67	Cottage (St. Inigoes Creek)		
				98	Tarkhill
33	Point Look-in	68	Inigoes	99	Arbuckle
34	Potomac	69	Kennedy	100	Lowell
35	Point Lookout Light	70	Chan	101	Shehan
36	Hall (Potomac River)	71	Gravel	102	Chadwick

NUMERICAL INDEX TO TRIANGULATION STATIONS—Continued.

ST. MARYS COUNTY—Continued.

County index number indicating station on Index Chart	Name of station	County index number indicating station on Index Chart	Name of station	County index number indicating station on Index Chart	Name of station
103	Guither	131	Healey (Bretons Bay)	157	Profound
104	Wall (St. George River)	132	Hollow	158	Mileys
		133	Trees	159	Shipping
105	Russell	134	Paw	160	Woods (St. Clement Bay)
106	Robrecht	135	Cherry Cove		
107	Swan (St. George River)	136	Compton	161	Canoe
		137	Sandbar	162	St. Patrick
108	Straits (St. George River)	138	Newtown	163	Blakistone Island Light
		139	Kaywood		
109	Adams	140	St. Clement	164	Heron
110	Smack	141	Roof	165	River Springs Catholic Chapel Cross
111	Labor	142	Rails (St. Clement Bay)		
112	St. George 4			166	Waterloo
113	Piney Point Light	143	Catholic Church Cross (Newtown Neck)	167	St. Catherine
114	Cedoak			168	Bailey
115	Grove (Bretons Bay)	144	Chapel	169	Sound
116	Dune	145	Mansion	170	St. Margaret 2
117	Fence	146	Howards (St. Clement Bay)	171	Prec
118	Protestant			172	Blakistone
119	What	147	Bank (St. Clement Bay)	173	Weiss
120	Lovers			174	Sacred Heart Church Spire (Bushwood)
121	Beau	148	Cecil		
122	Mouldy	149	Place	175	Lyon
123	Pine (Bretons Bay)	150	Guest	176	Farr
124	Cedar (Bretons Bay)	151	Stones	177	Fact
125	Corn (Bretons Bay)	152	Turf (St. Clement Bay)	178	Perry
126	Valley	153	Dynard	179	Cohouck
127	Foxwell	154	Tomakokin	180	Key
128	Buzzard	155	Cobrums	181	Barber (Wicomico River)
129	Noname	156	Radec		
130	Belle				

SOMERSET COUNTY.

1	Walnut	23	Sandy	43	Emanuel Church
2	Jones	24	Locust (Manokin River)	44	Mount Pleasant Church
3	Ivee				
4	Mount Vernon M. E. Church	25	Fitz	45	Asbury Church
		26	Wab	46	Sam
5	Ball (Wicomico River)	27	Pen (Manokin River)	47	Watermelon Hummock
6	Wind	28	Cox (Manokin River)		
7	Little	29	Green (Manokin River)	48	East
8	Dove			49	Monkey
9	Short	30	Barn	50	Scot
10	Room	31	Cupola (Manokin River)	51	Old
11	Haines			52	Will
12	Deal Island Church	32	Staff	53	Holland Island Bar Light
13	Bar (Tangier Sound)	33	Fairmount Church		
14	Joshua	34	Prickly	54	Fog 2
15	Senator	35	Has	55	Joseph
16	Miles	36	Ford (Big Annemessex River)	56	North Church Spire (Smith Island)
17	Solomons Lump Light				
18	Terrapin	37	Moon	57	Old Church Spire (Smith Island)
19	Kelley	38	Colburn		
20	Marsh (Manokin River)	39	Geog	58	Ewell Church Spire (Smith Island)
		40	Flat Cap		
21	St. Pierre	41	Janes Island Light		
22	Jean	42	Somers Cove Light		

NUMERICAL INDEX TO TRIANGULATION STATIONS—Continued.

TALBOT COUNTY.

County index number indicating station on Index Chart	Name of station	County index number indicating station on Index Chart	Name of station	County index number indicating station on Index Chart	Name of station
1	Pick	58	Kirk	112	Bozman
2	Corner (Wye River)	59	Ham (Miles River)	113	Bozman M. E. Church Spire
3	Right	60	Comb (Miles River)		
4	Chew	61	Hall (Miles River)	114	Koot
5	Whale (Wye River)	62	Barnett	115	Fox
6	Matter	63	Maiden	116	Dan
7	Deck	64	Stony	117	Edmond
8	Quarter	65	St. Michaels P. E. Church Spire	118	Warrior
9	Nodim			119	Ball (Harris Creek)
10	Gusta	66	St. Michaels Water Tank	120	Hen
11	Sylvia			121	Change 1910
12	Baldwins	67	Millwind	122	Nelson 3
13	Cousin	68	Deewat	123	Annette
14	Lloyd	69	Spar	124	Myrtle (Broad Creek)
15	Edward	70	Sara	125	Coal
16	Colonel	71	Seth (Miles River)	126	Tobe
17	Shaw	72	Pearson	127	Wire
18	Bruffs	73	Dixon	128	Blanco
19	Law	74	Rich Neck Water Tank	129	Ned
20	James (Miles River)	75	Kemp Tower	130	Caulk
21	Frank	76	Kemp	131	Fairbanks
22	Wood (Miles River)	77	Haddaway	132	Pine (Broad Creek)
23	Herr	78	Valliant	133	Luna
24	Ollie	79	Poplar South	134	Cabin
25	Swing	80	Great	135	Skinner
26	Fair	81	Front	136	Bald
27	Second	82	Wap	137	Rose
28	But	83	Southern M. E. Church	138	Gram (Broad Creek)
29	Aber	84	Black	139	Bengal
30	Two	85	Sharps Island Light	140	Eastman
31	Face	86	Jere	141	Woodill
32	Mais	87	Bar (Harris Creek)	142	Delta (Broad Creek)
33	Beak	88	M. E. Church (Tilghman Island)	143	Marion
34	Rieman			144	Willis
35	Leeds	89	Avalon	145	Neptune
36	Margo	90	Schoolhouse Cupola	146	Venus
37	Gibbs	91	Peoples Chapel	147	Mars
38	Long (Miles River)	92	Narrows	148	Royal
39	Beg	93	Eagle (Harris Creek)	149	Grave
40	Search	94	Dunk	150	Ray
41	Tug	95	Hawk	151	Willey
42	Hunting	96	Smith	152	Judge
43	Spree	97	Briary	153	Thelma
44	Whit	98	Vine	154	Elmore
45	Dorrance	99	Cummings	155	Beverly
46	Tang	100	Dog	156	Samuel (Broad Creek)
47	Johnson	101	Rabbit	157	Ansley
48	Lowndes	102	Grace	158	Harper
49	Draw	103	Mink	159	Taft
50	Chap	104	Harrison	160	Hopkins (Broad Creek)
51	Villa (Miles River)	105	Clump (Harris Creek)	161	Spencer
52	Easton	106	Lawn	162	Marshall
53	Henderson	107	End (Harris Creek)	163	Clark
54	Bethel	108	Rod (Harris Creek)	164	Holly
55	Fig	109	Otto	165	Marsh (Broad Creek)
56	Doctor (Miles River)	110	Miller	166	Cedar (Broad Creek)
57	McConnell	111	Pink	167	Ross (Broad Creek)

NUMERICAL INDEX TO TRIANGULATION STATIONS—Continued.

TALBOT COUNTY—Continued.

County index number indicating station on Index Chart	Name of station	County index number indicating station on Index Chart	Name of station	County index number indicating station on Index Chart	Name of station
168	Cook	201	Wall (Tred Avon River)	234	Show
169	Peary			235	Kit (Island Creek)
170	Roys	202	Aye	236	Moke
171	Irish	203	Hunter	237	Poco
172	Pont	204	Weave	238	Healey (Island Creek)
173	Sticky	205	Twin	239	Maslin
174	Vue	206	Toe	240	Mean
175	Ila	207	Trippe	241	Jay
176	Creek (Irish Creek)	208	Venture	242	Berry
177	Benoni 2	209	Plow	243	Landeye
178	Mutton	210	Higher	244	Choptank River Light
179	Tred	211	All	245	Chlora
180	Bellevue	212	Cam	246	Trappe
181	Tar	213	Deux	247	Lan
182	Peck	214	Crack	248	Rice
183	Tall	215	Mistle	249	Inez
184	Plain	216	Layor	250	Gis
185	Spin	217	Borough	251	Grubin
186	Martin (Tred Avon River	218	Golds	252	Black Beacon
		219	Mud (Tred Avon River)	253	Howells
187	Neva			254	Red
188	Robertson (Tred Avon River)	220	Town (Tred Avon River)	255	Double
				256	Boling
189	Stretch	221	Riverview	257	Rear
190	May	222	Weather Bureau Staff	258	Chancellor
191	Peebee	223	First	259	Barber (Tred Avon River)
192	Neck (Tred Avon River)	224	Bach		
		225	Boone	260	Duck (Choptank River)
193	Stab	226	Enter	261	Jam
194	Water	227	Straw	262	Spindle
195	Radcliffe	228	Delahay	263	Bank (Tred Avon River)
196	Bateman	229	Kent		
197	Melon	230	Harry	264	Raccoon
198	Gash	231	Charles (Island Creek)	265	Blind
199	Camden	232	Potato	266	Up
200	Blossom	233	Ritter		

VIRGINIA.

1	Herring Pond 2	9	Fox Island Poplar	17	Grace M. E. Church
2	Lynch Point 3	10	Mos	18	Long Point
3	Smith Point Light	11	Wharf (Saxis Pier)	19	Wildcat
4	Shanks Hammock 2	12	Saxis Church Spire	20	Pope Island Life-Saving Station
5	Horse	13	Oil		
6	Fishbone	14	Summer	21	Chester (Virginia)
7	Reach Hammock	15	Cup	22	Killick Shoal Light
8	Beacon	16	Money	23	Assateague Light

NUMERICAL INDEX TO TRIANGULATION STATIONS—Continued.

WICOMICO COUNTY.

County index number indicating station on Index Chart	Name of station	County index number indicating station on Index Chart	Name of station	County index number indicating station on Index Chart	Name of station
1	Earle (Nanticoke River)	7	Roar	13	Child
2	Juliet	8	Nanti	14	Creek (Wicomico River)
3	Pole	9	White	15	End (Wicomico River)
4	Bivalve Church	10	Great Shoals Light		
5	Rag	11	Ella		
6	Nanticoke Church	12	Holland (Wicomico River)		

WORCESTER COUNTY.

1	Hamilton	17	Sanpoi	31	Green Run Inlet Life-Saving Station Flagstaff
2	Ocean City Water Tower	18	Mud (Sinepuxent Bay)	32	Tizz
3	Harmon	19	Ingraya	33	Mill (Chincoteague Bay)
4	Ocean	20	Salt (Sinepuxent River)	34	Maryland-Virginia (Life-Saving Station Beach)
5	Buffing	21	North Beach Life-Saving Station	35	Maryland-Virginia (Pope Island)
6	Buffington Windmill	22	Birch	36	Maryland-Virginia (Railroad)
7	Gull	23	Neck (Chincoteague Bay)	37	Thorofare
8	Inkquill	24	Newport	38	Collier
9	Seaside	25	Handys Hammock	39	Convent Water Tower
10	Ellpow	26	Ricks	40	Gantt
11	Beach (Sinepuxent Bay)	27	Guilberts Cupola		
12	Fassett	28	Beacon Clumps		
13	Shore	29	Landlet		
14	Nellys	30	Turnagain		
15	Bar (Sinepuxent Bay)				
16	Longwells Windmill				

95112—13——6

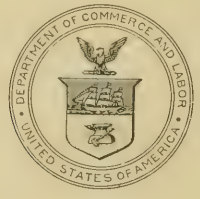
DEPARTMENT OF COMMERCE AND LABOR
COAST AND GEODETIC SURVEY
O. H. TITTMANN, Superintendent

SURVEY OF OYSTER BARS

ANNE ARUNDEL COUNTY MARYLAND

DESCRIPTION OF BOUNDARIES AND LANDMARKS AND REPORT OF WORK OF UNITED STATES COAST AND GEODETIC SURVEY IN COOPERATION WITH MARYLAND SHELL FISH COMMISSION

By C. C. YATES
ASSISTANT AND CHIEF OF PARTY, COAST AND GEODETIC SURVEY



WASHINGTON
GOVERNMENT PRINTING OFFICE
1907

DEPARTMENT OF COMMERCE AND LABOR

Document No. 77.

COAST AND GEODETIC SURVEY

LETTER OF SUBMITTAL.

DEPARTMENT OF COMMERCE AND LABOR,
COAST AND GEODETIC SURVEY,
Washington, June 1, 1907.

SIR: I have the honor to transmit herewith the report of the officer detailed from the Coast and Geodetic Survey to cooperate with the Maryland Shell Fish Commission in surveying the oyster beds of the State of Maryland, under the provisions of the act of Congress entitled "An act to authorize the Secretary of Commerce and Labor to cooperate, through the Bureau of the Coast and Geodetic Survey and the Bureau of Fisheries, with the shellfish commissioners of the State of Maryland in making surveys of the natural oyster beds, bars, and rocks in the waters within the State of Maryland," approved May 26, 1906, and certain results which are necessary for the interpretation and use of the plats of the survey.

Respectfully,

O. H. TITTMANN, *Superintendent.*

To Hon. OSCAR S. STRAUS,
Secretary of Commerce and Labor.

CERTIFICATION.

ANNAPOLIS, MD., *May 29, 1907.*

The following publication is certified to contain correct technical descriptions of all boundaries and landmarks established in Anne Arundel County and contiguous waters by the Maryland Shell Fish Commission in cooperation with the United States Coast and Geodetic Survey.

C. C. YATES,
Assistant and Chief of Party in the Coast and Geodetic Survey.

ANNAPOLIS, MD., *June 6, 1907.*

Examined and certified to be correct.

WALTER J. MITCHELL,
BENJAMIN K. GREEN,
CASWELL GRAVE,
Maryland Shell Fish Commissioners.
SWEPSON EARLE,
Hydrographic Engineer.

NOTE.—Copies of this publication and of the charts of the natural oyster bars of "Anne Arundel County and Adjacent Waters" were filed in the office of the clerk of the circuit court of Anne Arundel County and in the office of the Board of Shell Fish Commissioners at Annapolis on June 20, 1907.

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SURVEY OF OYSTER BARS, ANNE ARUNDEL COUNTY, MD.

INTRODUCTION.

PUBLICATIONS.

The preparation of publications relating to the survey of the natural oyster bars of Maryland has been divided between the Government and the State in accordance with the laws authorizing the work and the natural division of the surveying operations of the cooperating forces.

The part prepared under the direction of the Superintendent of the Coast and Geodetic Survey consists of this publication and a series of large-scale charts. The charts show all legal boundaries of natural oyster bars within the waters opened up for leasing with Anne Arundel County and the location of all landmarks (Coast and Geodetic Survey triangulation stations) used in connection with the delineation of these boundaries. This publication gives a technical description of the oyster-bar boundaries and landmarks shown on the charts, and includes the report of the representative of the Coast and Geodetic Survey.

The part to be published by the Shell Fish Commission will include a report of the work executed by the commission under the provisions of the oyster-culture laws of Maryland, descriptions of oyster investigations and the delimitation of oyster bars, and other important legal and scientific information.

COOPERATION OF THE COAST AND GEODETIC SURVEY.

The work of the Coast and Geodetic Survey, as the name of the service indicates, includes a survey of the coasts of the United States made on a geodetic basis. This has involved the gradual construction of a great framework of interstate triangulation for use as a foundation for detail hydrographic and topographic surveys, from which there has been compiled and published a complete set of charts of the coasts of the United States, including all waters of Maryland where oysters grow. This existing triangulation, hydrography, and topography is essential for a correct and practical survey of natural oyster bars; and it being one of the fundamental functions of the Coast and Geodetic Survey to furnish such data for all surveying, charting, and other allied purposes within the area of the operations of the service, the cooperation of the Coast and Geodetic Survey with the Maryland Shell Fish Commission is a practical and useful development of Government work.

LAWS RELATING TO THE COOPERATION.

The work of the Coast and Geodetic Survey and of the Bureau of Fisheries, in cooperation with the Maryland Shell Fish Commission, in surveying and publishing charts of natural oyster bars, establishing permanent landmarks over triangulation stations, and preparing for publication the necessary technical and legal descriptions of boundaries and landmarks delineated on the charts, has been executed in compliance with a request from the Governor of the State of Maryland to the Secretary of Commerce and Labor, and by authority of the following laws of the United States and Maryland:

[Act of Congress approved May 26, 1906.]

AN ACT to authorize the Secretary of Commerce and Labor to cooperate, through the Bureau of the Coast and Geodetic Survey and the Bureau of Fisheries, with the Shell Fish Commissioners of the State of Maryland in making surveys of the natural oyster beds, bars, and rocks in the waters within the State of Maryland.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of Commerce and Labor be, and he is hereby, authorized and directed, upon the request of the governor of the State of Maryland, to designate such officers, experts, and employees of the Bureau of the Coast and Geodetic Survey and of the Bureau of Fisheries as may be necessary to cooperate with the Maryland State Board of Shell Fish Commissioners in making a survey of and locating the natural oyster beds, bars, and rocks in the waters within the State of Maryland; and the Secretary of Commerce and Labor is hereby authorized and directed to furnish to the officers, experts, and employees of said Bureaus so detailed as aforesaid such instruments, appliances, and steam launches as may be necessary to make the survey aforesaid; and the Secretary of Commerce and Labor is hereby authorized to have made in the Bureau of the Coast and Geodetic Survey all the plats necessary to show the results of the aforesaid survey and the locations of the said natural oyster beds, bars, and rocks in the waters within the State of Maryland, and to furnish to the Board of Shell Fish Commissioners of the State of Maryland such copies as may be necessary, and for this purpose to employ, in the District of Columbia and elsewhere, such technically qualified persons as may be necessary to carry out the purpose of this act.

SEC. 2. That the Secretary of Commerce and Labor is hereby further authorized to have erected or constructed by the officers so detailed as aforesaid, while making such survey, such structures as may be necessary to mark the points of triangulation, so that the same may be used for such future work of the Coast and Geodetic Survey as the said Bureau may be hereafter required to perform in prosecuting the Government coast survey of the navigable waters of the United States located within the State of Maryland.

* * * * * * *

SEC. 4. That this act shall take effect from the date of its passage.

[Act of Congress approved March 4, 1907.]

AN ACT making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and eight, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and eight, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the Shell Fish Commission of the State of Maryland, to be immediately available and to continue available until expended, twenty-five thousand dollars. * * *

[Act of the legislature of Maryland approved April 2, 1906.]

AN ACT to establish and promote the industry of oyster culture in Maryland, to define and mark natural oyster beds, bars and rocks lying under the waters of this State, to prescribe penalties for the infringement of the provisions of this act, and * * *

SECTION 1. *Be it enacted by the general assembly of Maryland*, That the following sections be, and they are hereby, added to article 72 of the Code of Public General Laws, title "Oysters." * * *

SEC. 86. The Board of Shell Fish Commissioners shall, as soon as practicable after the passage of this act, cause to be made a true and accurate survey of the natural oyster beds, bars, and rocks of this State, said survey to be made with reference to fixed and permanent objects on the shore, giving courses and distances, to be fully described and set out in a written report of said survey, as hereinafter required. A true and accurate delineation of the same shall be made on copies of published maps and charts of the United States Coast and Geodetic Survey, which said copies shall be filed in the office of the said Commissioners in the city of Annapolis; and the said Commissioners shall further cause to be delineated upon copies of the published maps and charts of the United States Coast and Geodetic Survey, of the largest scale, one copy for each of the counties of this State in the waters of which there are natural oyster beds, bars, and rocks, all natural beds, bars, and rocks lying within the waters of such county, which maps shall be filed in the office of the clerks of the circuit courts for the respective counties wherein the grounds so designated may lie.

* * * * * * *

SEC. 87. The governor of this State is hereby requested to ask the assistance of the United States Coast and Geodetic Survey, and of the United States Fish Commissioner, to aid in the carrying out of the provisions of the preceding section. * * *

SEC. 89. As soon as practicable after the first day of April, 1906, the said Commissioners shall organize and shall at once proceed, with the assistance of such person or persons as may be detailed by the United States Coast and Geodetic Survey, and the United States Fish Commissioner, to aid them in their work, and of such persons as may be appointed under the preceding section, to have laid out, surveyed, and designated on the said charts the natural beds, and bars, and shall cause to be marked and defined as accurately as practicable the limits and boundaries of the natural beds, bars, and rocks, as established by said survey, and they shall take true and accurate notes of said survey in writing, and make an accurate report of said survey, setting forth such a description of landmarks as may be necessary to enable the said Board, or their successors, to find and ascertain the boundary lines of the said natural oyster beds, bars, and rocks as shown by a delineation on the maps and charts provided in this act; said report shall be completed and filed in the office of the Board in the city of Annapolis within ninety days after the completion of the survey of any county. Said Commissioners shall cause the same to be published in pamphlet form, and transmit copies of the same to the clerk of the circuit court for the respective counties, where the charts have been filed or directed to be filed, as hereinafter provided; the said report to be filed by the clerks of the several counties in a book kept for that purpose. And the said survey and report, when filed, subject to the right of appeal hereafter provided for in this act, shall be taken in all of the courts of this State as conclusive evidence of the boundaries and limits of all natural oyster beds, bars, and rocks lying within the waters of the county wherein such survey and report are filed, and shall be construed to mean in all of the said courts that there are no natural oyster beds, bars, or rocks lying within the waters of the counties wherein such report and survey are filed other than those embraced in the survey authorized by this act, and that all areas of the Chesapeake Bay and its tributaries within the State of Maryland not shown in the survey to be natural oyster beds, bars, or rocks shall be construed in all the courts of the State to be barren bottoms, and open for disposal by the State for the purpose of private planting or propagation of oysters thereon under the provisions of this act; provided that the said survey and report shall not be so construed as to affect in any manner the holdings by citizens of this State in any lot which may have been appropriated or taken up under the laws of this State prior to the approval of this act. * * *

The law of the State of Maryland, passed March 9, 1842, authorizing officers of the U. S. Coast and Geodetic Survey to enter upon the lands within the State limits for the purposes of the Survey, is as follows:

AN ACT concerning the survey of the coast of Maryland.

SECTION 1. *Be it enacted by the general assembly of Maryland*, that it shall and may be lawful for any person or persons employed under and by virtue of an act of the Congress of the United States, * * * at any time hereafter to enter upon lands within this State for the purpose of exploring, surveying, triangulating, or leveling, or doing any other matter or thing which may be necessary to effect the objects of said act, and to erect any works, stations, buildings, or appendages requisite for that purpose, doing no unnecessary injury to private or other property.

SEC. 2. *And be it enacted*, That in case the person or persons employed under the act of Congress aforesaid can not agree with the owners or possessors of the land so entered upon and used as to the amount of damage done thereto by reason of the removal of fences, cutting of trees, or injury to the crop or crops growing on the same, it shall and may be lawful for the said parties or either of them to apply to the chief justice for the time being, or one of the associate judges of the judicial district in which such land may be situated, who shall thereupon appoint three disinterested and judicious freeholders, residents of the same judicial district, to proceed with as much despatch as possible to the examination of the matter in question and the faithful assessment of the damages sustained by the owners or possessors aforesaid, and the said freeholders or a majority of them, having first taken and subscribed an oath or affirmation before the chief or associate justice aforesaid or other person duly authorized to administer the same, that they will well and truly examine and assess as aforesaid, and having given five days' notice to both parties of the time of their meeting, shall proceed to the spot, and then and there upon their own view and, if required, upon the evidence of witnesses (to be by them sworn or affirmed and examined), shall assess the said damages, and shall afterwards make report thereof and of their proceedings in writing under their hands and seals and file the same within five days thereafter in the office of the clerk of the county in which the land aforesaid is situated, subject to an appeal by either party to the county court of the said county within ten days after filing as aforesaid, and the said report so made as aforesaid, if no appeal as aforesaid be taken, shall be held to be final and conclusive as between the said parties, and the amount so assessed and reported shall be paid to the said owners or possessors of the land so damaged within twenty days after the filing of said report, and the said chief or associate justice as aforesaid shall have authority to tax and allow, upon the filing of said report, such costs, fees, and expenses to the said freeholders for the performance of their duty as he shall think equitable and just, which allowance shall be paid by the person or persons employed under the act of Congress aforesaid, within the time last above limited, but if an appeal as aforesaid be taken, the case shall be set down for hearing at the first term of county court aforesaid ensuing upon and after said appeal, and it shall be lawful for either party immediately after the entry of such appeal to take out summons for such witnesses as may be necessary to be examined upon the hearing aforesaid, and the said court shall have power in its discretion to award costs against whichever the final judgment shall be entered, and such appeal, at the option of either party, may and shall be heard before, and the damages assessed by, a jury of twelve men to be taken from the regular panel and elected as in other cases.

SEC. 3. *And be it enacted*, That if any person or persons shall wilfully injure or deface or remove any signal, monument, or building, or any appendage thereto, erected, used, or constructed under and by virtue of the act of Congress aforesaid, such person or persons so offending shall severally forfeit and pay the sum of fifty dollars, with costs of suit, to be sued for and recovered by any person who shall first prosecute the same before any justice of the peace of the county where the person so offending may reside, and shall also be liable to pay the amount of damages thereby sustained, to be recovered with costs of suit in an action on the case, in the name and for the use of the United States of America, in any court of competent jurisdiction.

CHARTS AND MAPS.

CHARTS OF NATURAL OYSTER BARS.

The charts[a] of the natural oyster bars of "Anne Arundel County and Adjacent Waters," published by the Coast and Geodetic Survey from results of surveys of the Government in cooperation with the Maryland Shell Fish Commission, consist of a series of four sheets, covering the west shore of Chesapeake Bay from Fort Carroll to Holland Point. They are published on the scale of 1 part in 20,000 (approximately $3\frac{1}{8}$ inches to a statute mile), and are constructed on polyconic projections and based on the United States standard datum of the Coast and Geodetic Survey.

These charts show all oyster bar and other boundaries established by the Commission, and are certified by them for the purpose of filing in the office of the clerk of the circuit court of Anne Arundel County and in the office of the Commission at Annapolis, as required by the oyster-culture laws of Maryland.

In addition to the boundaries, the charts show the location and name of all landmarks (U. S. Coast and Geodetic Survey triangulation stations) used in making the survey, together with the hydrography and topography necessary to make the technical definitions and delineations of boundaries readily understandable, both by the people engaged in oyster industry and the general public who may become interested through leasing of barren bottoms for oyster culture.

The names of the oyster bars are those used locally, as nearly as could be ascertained by the hydrographic engineer of the Commission, and are not designated by numbers, as might suggest itself on first thought as being the best method when the great number of oyster bars in the whole State are considered. By the use of local names, it is believed that much confusion will be avoided in the location of oyster bars, especially by those not familiar with charts.

The corners of the oyster bars are numbered from 1 to the total number of corners in each bar under consideration. Where bars adjoin, making one point a corner of two or more bars, these points have two or more numbers, each corresponding to the bar in which the figure is located. The numbers of the corners correspond with the technical and legal descriptions given in this publication under the heading "Boundaries of natural oyster bars."

The natural oyster bars and landmarks have been grouped in the contents of this publication in accordance with the charts upon which they are shown. To find a particular oyster bar or landmark which is only known by name, consult the "Contents," and the desired chart and general location will be indicated. To find the name of a bar or landmark which is only known by location, consult the progress map at the end of this publication for the number of the chart on which it is to be found, and then examine the known locality on the chart for the name of the bar or landmark in question.

The contours for the depth of water at mean low tide have been taken from the hydrographic sheets of the Coast and Geodetic Survey at Washington. Four curves

[a] For copies of these charts apply to the Superintendent of the Coast and Geodetic Survey at Washington, D. C.

were selected as being the most convenient for taking off from the original hydrographic sheets and the ones of greatest value to those interested in the oyster industry. The 1-fathom contour (6 feet) and the 5-fathom contour (30 feet) practically include all the natural oyster bars surveyed, while the 3-fathom contour (18 feet) furnishes the curve of about the average depth. The 10-fathom contour (60 feet) serves in a general way to indicate the outer limits of probable oyster culture.

The boundaries of the waters within the territorial limits of the county and the boundaries of waters not within these limits but opened up for the leasing with the county are plainly indicated on the charts. A full technical description of these boundaries is given in this publication under the heading "Boundaries of county waters."

The areas in acres of the natural oyster bars were determined under the direction of the hydrographic engineer of the Commission by two independent planimeter measurements made of the area of the bars as delineated on the smooth projections of the Coast and Geodetic Survey. These areas are given in small figures on the face of the chart within the boundaries of the bars.

The symbols used on the charts for the different kinds of boundaries, triangulation stations, contours of depth of water, etc., require no other explanation than that given in the notes on the charts.

PROJECTIONS.

The polyconic projections, like the charts which are described in the preceding section, were all constructed by draftsmen of the Coast and Geodetic Survey. These draftsmen also plotted the sextant positions on the smooth projections which determine the location of the legal boundaries of the natural oyster bars as delineated by the Shell Fish Commission.

A copy of each of these projections, with all the plotted positions of triangulation stations, shore line, sextant positions, and boundaries of oyster bars, was made under the direction of the hydrographic engineer of the commission, by pricking through with a sharp needle the intersections of the projection lines and all other points as plotted on the original sheets.

These projections (in duplicate) are the original records of all natural oyster bar and other boundaries established by the commission. One set of these projections is filed in the archives of the Coast and Geodetic Survey at Washington and the other set is filed in the office of the Shell Fish Commission at Annapolis.

PROGRESS MAP.

The progress map[a] attached to this publication is on a scale of one part in a hundred thousand, and shows in outline the work accomplished by the U. S. Coast and Geodetic Survey in Anne Arundel County and contiguous waters. It gives the scheme of all the charts and smooth projections constructed in connection with the survey of the natural oyster bars, the location and names of all triangulation stations used as a basis for the surveying work, and the "Boundaries of county waters" established

[a] For this map, see folder at end of this publication.

by the commission for the purpose of carrying out the laws of Maryland relating to oyster culture.

Besides indicating the amount of work done by the Coast and Geodetic Survey in connection with the work of the Shell Fish Commission, the progress map will be of special value for index purposes to engineers and others, searching for the particular chart or projection covering the locality of the oyster bars or landmarks that may be under consideration.

BOUNDARIES OF COUNTY WATERS.

WATERS WITHIN TERRITORIAL LIMITS OF THE COUNTY.

The laws relating to oyster culture under which the Maryland Shell Fish Commission is executing its survey, provide that "no person shall be permitted, by lease, assignment, or in any other manner, to acquire a greater amount of land than ten acres situated within the territorial limits of any of the counties, or one hundred acres in any other place."

The boundary line[a] between the waters "within the territorial limits" of Anne Arundel County and the waters in "any other place," as established by the Shell Fish Commission and delineated on the charts and the smooth projections of the Coast and Geodetic Survey, is technically described and defined as follows:

Commencing at a point defined by the intersection of the northern boundary line of Anne Arundel County with the center line of Fort McHenry Channel; thence along the center line of Fort McHenry Channel past Fort Carroll to a point at the intersection of the center line of Fort McHenry Channel and the center line of Brewerton Channel; thence along the center line of Brewerton Channel to a point defined by the intersection of the center line of Brewerton Channel and a straight line between North Point (Old Tower) and a point defined by latitude[b] 39° 09′ 59.3″ and longitude[b] 76° 28′ 39.7″, situated on Rock Point; thence in a straight line to a point defined by latitude 39° 09′ 59.3″ and longitude 76° 28′ 39.7″ situated on Rock Point; thence following the mean low-water line along the shore of the bay to a point defined by latitude 39° 08′ 10.6″ and longitude 76° 26′ 21.2″, situated on Frankie Point; thence in a straight line across the mouth of Bodkin Creek to a point situated at the center of the old light-house tower on Bodkin Point; thence following the mean low-water line along the shore of the bay to a point defined by latitude 39° 03′ 35.2″ and longitude 76° 25′ 56.4″, situated on Mountain Point; thence in a straight line across the mouth of Magothy River to a point defined by latitude 39° 03′ 11.1″ and longitude 76° 26′ 18.7″, situated on Persimmon Point; thence following the mean low-water line along the shore of the bay around Sandy Point to a point defined by latitude 38° 59′ 10.1″ and longitude 76° 25′ 33.4″, situated on Hackett Point; thence in a straight line across the mouth of Whitehall Bay to a point defined by latitude 38° 58′ 25.0″ and longitude 76° 27′ 19.0″, situated on Greenbury Point; thence in a straight line across the mouth of Severn River to a point defined by latitude 38° 56′ 28.0″ and longitude 76° 27′ 00.0″, situated on Tolly Point; thence following the mean low-water line along the shore of the bay to a point defined by latitude 38° 54′ 42.0″ and longitude 76° 27′ 25.2″, situated on a point of land on the north side of Fishing Creek; thence in a straight line across the mouth of Fishing Creek to a point defined by latitude 38° 54′ 29.1″ and longitude 76° 27′ 12.9″, situated on Thomas Point; thence in a straight line across the mouth of South River to a point defined by latitude 38° 53′ 13.6″ and longitude 76° 29′ 21.9″, situated on Saunders Point; thence following the mean low-water line along the shore of the bay to a point defined by latitude 38° 52′ 10.4″ and longi-

[a] See Charts of Natural Oyster Bars, published by the U. S. Coast and Geodetic Survey, and the progress map at the end of this publication.

[b] Latitudes and longitudes based on the United States standard datum of the U. S. Coast and Geodetic Survey.

tude 76° 30′ 35.6″, situated on Dutchman Point; thence in a straight line across the mouth of West River to a point defined by latitude 38° 51′ 12.8″ and longitude 76° 29′ 53.8″, situated on Curtis Point; thence following the mean low-water line along the shore of the bay to a point defined by latitude 38° 48′ 02.8″ and longitude 76° 30′ 36.6″, situated on a point about three-quarters of a mile north of Broadwater Creek; thence in a straight line across the mouth of Broadwater Creek to a point defined by latitude 38° 47′ 21.3″ and longitude 76° 31′ 26.3″, situated on a point at the southern entrance to Broadwater Creek; thence following the mean low-water line along the shore of the bay to a point defined by latitude 38° 46′ 22.2″, and longitude 76° 32′ 23.5″, situated on Parker Island; thence in a straight line across the mouth of Herring Bay to a point defined by latitude 38° 43′ 40.6″ and longitude 76° 31′ 37.8″, situated on Holland Point; thence following the mean low-water line along the shore of the bay to the southern boundary line of Anne Arundel County in the vicinity of Hog Point.

WATERS CONTIGUOUS TO THE COUNTY.

The oyster-culture laws of Maryland provide that a true and accurate delineation of all natural oyster bars shall be made on copies of charts of the United States Coast and Geodetic Survey, "which said copies shall be filed in the office of the said Commissioners in the city of Annapolis;" and "in the office of the clerks of the circuit courts for the respective counties wherein the grounds so designated may lie."

For the purpose of carrying out the latter part of this section of the law, and for the purpose of establishing the limits of the oyster-culture area to be opened up for the leasing with Anne Arundel County, a boundary line between the waters contiguous to, but not within the territorial limits of Anne Arundel County and the waters contiguous to, but not within the territorial limits of adjacent counties, has been established by the Shell Fish Commission. This boundary line[a] has been delineated on the charts of the natural oyster bars published by the Coast and Geodetic Survey and is technically described and defined as follows:

Commencing at a point defined by the intersection of the center line of Brewerton Channel and a straight line between North Point (Old Tower) and a point defined by latitude 39° 09′ 59.3″ and longitude 76° 28′ 39.7″, situated on Rock Point; thence along the center line of Brewerton Channel and a continuation of the same line to a point defined by latitude 39° 09′ 10.6″ and longitude 76° 21′ 00.0″, situated about $3\frac{3}{8}$ miles[b] east[c] of Seven Foot Knoll Light and $3\frac{7}{16}$ miles southeast of Craighill Channel Light (Front Range); thence due south in a straight line to a point defined by latitude 39° 03′ 30.0″ and longitude 76° 21′ 00.0″, situated about $2\frac{5}{8}$ miles from Baltimore Light, nearly on a straight line between Baltimore Light and Love Point Light; thence in a straight line to a point defined by latitude 39° 00′ 57.2″ and longitude 76° 21′ 34.0″, situated about $1\frac{5}{16}$ miles east of Sandy Point Light; thence in a straight line to a point defined by latitude 38° 53′56.2″ andlongitude 76° 24′ 32.0″, situated about $1\frac{1}{16}$ miles east of Thomas Point Light; thence in a straight line to a point defined by latitude 38° 50′ 01.1″ and longitude 76° 26′ 15.0″, situated about $2\frac{1}{2}$ miles west of Bloody Point Bar Light; thence in a straight line to a point defined by latitude 38° 42′ 33.4″ and longitude 76° 27′ 40.0″, situated about $3\frac{3}{8}$ miles east of Hog Point; thence in a straight line to a point defined by the intersection of the mean low-water line of the shore of the bay and the southern boundary line of Anne Arundel County, in the vicinity of Hog Point.

LIMITS OF DREDGING AREA ADJACENT TO CRAIGHILL CHANNEL.

The oyster laws of the State of Maryland define the limits of the area adjacent to Craighill Channel in which dredging for oysters is prohibited, and the boundaries of the natural oyster bars established by the Maryland Shell Fish Commission in that

[a] See progress map at the end of this publication. [b] Statute miles. [c] True bearings.

vicinity have been delineated accordingly. The law defining the boundaries of the prohibited area is as follows:

[Code of Maryland, article 72, section 50.]

Any person dragging, raking, or dredging for oysters within five hundred yards of either edge of the channel at the mouth of the Patapsco River, known as the Craighill Channel, extending from Seven Foot Knoll to the mouth of Magothy River, or within five hundred yards of either edge of the cut-off connecting the Brewerton and Craighill channels, shall forfeit his boat or vessel; and it shall be lawful for any justice of the peace of the county or city in which such person shall be arrested to try such person, and on conviction to condemn said boat or vessel and sell the same on five days' notice, and fine the said offender a sum of not less than five dollars, nor more than twenty-five dollars, for each and every offense; and said justice of the peace shall pay over one-half of said fines and forfeitures to the informer, and the other half to the school board of said county or city.

LIST OF NATURAL OYSTER BARS WITHIN DREDGING AREA OF COUNTY.

The natural oyster bars open under the existing laws of Maryland for tonging or dredging, as the case may be, are not so classed and shown on the published charts, as it is a matter more or less subject to change by legislation independent of the oyster-culture laws of Maryland.

However, the Commission in establishing the legal boundaries of the oyster bars have so fixed the limits of certain bars that in every case their boundaries are within or coincident with the boundary line between the tonging and dredging areas. In establishing these boundaries, the Commission have adopted the tonging-dredging limits furnished to them through the courtesy of the Commander of the State Fishery Force.

Most of the natural oyster bars open for dredging are of large area but few in number, and a complete list of the dredging bars in "Anne Arundel County and Adjacent Waters," is given below to facilitate the search of anyone desiring to locate them on the published charts:

Chart No. 1:
- Lumps East of Craighill Channel.
- Bodkin Point North.
- Bodkin Point South.
- Mountain Point.

Chart No. 2:
- Outer Magothy.

Chart No. 3:
- (No dredging area on this chart.)

Chart No. 4:
- Bay Shore.

BOUNDARIES OF NATURAL OYSTER BARS.

EXPLANATION OF DESCRIPTIONS OF BOUNDARIES.

The natural oyster bars of Anne Arundel County are 91 in number, and their total area as marked out by buoys placed by the hydrographic engineer of the commission is 33,666 acres. As provided by law, the limits of the oyster bars are all straight lines, but they inclose areas of all shapes from triangles to complicated nine-sided figures, and of all sizes from 4 acres in the rivers to 7,548 acres in the bay.

The sides vary in length from 93 to 7,529 yards, and in some cases the corners of the boundaries are practically at the triangulation stations from which they are located, while in other instances they are over 10,000 yards from the landmarks most available for the purposes of fixing their positions.

The varied characteristics of the legal boundaries of the oyster bars indicated by the above statement, together with the complicated requirements of the law under which the survey has been executed, and the magnitude of the work with the consequent need of fixed and uniform methods, has made the problem of describing the boundaries, one of considerable difficulty and importance.

The boundaries of the natural oyster bars of Anne Arundel County, as established by the Shell Fish Commission and delineated on the Coast and Geodetic Survey charts and projections, are technically defined and described by a method somewhat different from that used in other oyster surveys. But it is believed that the forms finally adopted will fulfill all needs of the survey, and that they can be continued, with slight modifications to the end of the work.

The descriptions have been arranged in tabular form, thus avoiding many hundred repetitions of the same words by making one explanation of the tables sufficient for all oyster bars in the county.

At the top of each tabular form is given the legal name of the natural oyster bar to be described, its general locality, and the number of the chart on which its legal boundaries are shown.

The first column under the heading of "Corner of bar" gives the number corresponding to the corner of the boundary as shown on the charts and to the number on the buoy marking the actual corner of the bar. The numbers of the corners have been assigned by naming the southernmost point No. 1, thence proceeding in a clock-wise direction around the bar; but where a corner of one bar is identical with the corner of one or more other bars, only the number of the corner of the oyster bar being described in the table is given in this column.

The second and third columns under the headings of "Latitude" and "Longitude" give the geographic positions of the corners. These positions have been adopted by the commission as the primary technical definition of the corners, and should be considered as final in case of a dispute arising from discrepancies caused by other means of location. The latitudes and longitudes given in these columns are based on the United States standard datum of the Coast and Geodetic Survey, and the points thus defined can be relocated from distant triangulation stations of the Survey, even though all the landmarks and buoys originally used for their location have been destroyed by natural causes or by the acts of vandals desiring to defeat the purposes of the oyster-culture law.

The fourth and fifth columns, under the general heading of "True bearings"[a] and the specific headings "Forward" and "Back," give bearings measured from a true north and south line. The three "Forward" bearings are from the corner of the boundary designated in the first column to the triangulation stations named on the corresponding lines in the last column, and the three "Back" bearings are from these same stations in the last column to the corresponding corner of boundary in the first column. The

[a] The mean magnetic declination in Anne Arundel County in 1907 was 5° 45′ west of north and the annual increase 3′.

difference in minutes of arc between the forward and back bearings shown in some cases is actual and not accidental, and is due to the fact that the computations took into account the spheroidal shape of the earth.

The sixth column under the heading of "Distance" gives the three computed distances in yards from the corner of the bar noted in the first column to the triangulation stations named on the corresponding lines in the last column, and vice versa.

The seventh and last column, under the heading of "U. S. C. & G. S. Triangulation Station,"[a] gives the names of the landmarks from which were computed the corresponding "Latitude," "Longitude," "True bearing," and "Distance" of the "Corner of the bar" designated in the first column. A full description of the location and markings of these triangulation stations is given in another part of this publication, under the heading of "Descriptions of landmarks."

SURVEYING METHODS FOR RELOCATION OF BOUNDARIES.

There are a number of methods that can be used in the relocation of the actual boundaries of the natural oyster bars as technically described in this publication and delineated on the published charts of the Coast and Geodetic Survey.

The following brief descriptions of five of these more or less different methods assume a certain amount of experience and knowledge on the part of the engineer in the particular kind of surveying under consideration, and are only intended as reminders of ways and means that can be used.

There are two problems that are likely to present themselves to those interested in the boundaries of natural oyster bars. One, to determine whether the buoys marking the corners have been dragged or otherwise moved from their correct positions, and the other, to relocate or reestablish a buoy at the point from which it was removed. The different ways of solving these two problems partly depend upon the instruments possessed by the engineer and his assistants, and partly on his training and experience.

(1) *Triangulation.*—This method is the one that will give the greatest accuracy, but on account of its requiring special data and instruments, and being an operation rarely used by engineers not engaged in geodetic surveying, it is recommended only for cases in dispute that can not be settled satisfactorily by some other method. An explanation of this class of work would be too long for a report of this sort, and those not familiar with this method are referred to the publications on the subject by the Coast and Geodetic Survey.

(2) *Hydrographic.*—This method is the most simple and satisfactory one that can be adopted if the surveyor can obtain the use of the necessary instruments and assistants. It is the one best suited for the work of the engineers of the Commission in locating corners of boundaries, as it gives results of the accuracy ordinarily required and is rapid in execution. Besides, it has the advantage of being available whenever three triangulation stations of suitable relative positions are visible from the off-shore points needing relocation.

Most navigators and others familiar with the use of a sextant are well acquainted with the graphic three-point method of fixing a position on water, and only a brief description of the operation will be stated.

[a] Geographic positions of these triangulation stations can be obtained by application to the Superintendent of the Coast and Geodetic Survey at Washington.

In the case where there is only one engineer having a single sextant, the three-point method can be used, but not until the two angles determining the position of any buoy have been calculated from the "Forward bearing" given in the tabular forms describing the boundaries of the oyster bars. For example, take "Traces Hollow" bar, described on page —, and assume that "Corner No. 3" is to be examined as to its position. The angle between the two landmarks "Cool" and "Weems," as determined from the forward bearings from this corner, is 101° 02′ and the angle between "Weems" and "Field" is 68° 52′. Having these two angles, the engineer proceeds to the buoy of doubtful location and measures the actual sextant angles between the landmarks for which the calculations were made. If the measured and calculated angles do not agree, the buoy is not in its correct position and the boundary corner must be relocated. This is accomplished by moving the boat about until a point is reached where the angles do agree, and this point being the desired location, the buoy can be placed in its correct position.

If the engineer can obtain the use of both a sextant and a three-arm protractor ("position finder"), the availability of the hydrographic method is increased, as the use of the protractor is essential in case of the washing away or destruction of one or more of the landmarks originally used in describing the boundaries. Under these circumstances, any three landmarks of suitable relative positions that are visible from the point to be located can be utilized. For example, the engineer can proceed to the buoy of doubtful position and measure the two adjacent sextant angles between the three landmarks selected. These two angles are set on the three-arm protractor and the actual position of the buoy plotted on the chart by shifting the protractor about until the edges of each of the three arms passes through the center of the symbols on the chart marking the position of the three landmarks selected. The center of the hub of the protractor will indicate on the chart the actual position of the buoy, and if the point thus obtained does not coincide with the true positions of the corner of the boundary as given on the chart, the surveyor can proceed to locate the buoy correctly by reversing the operation. This is done by placing the center point of the hub of the protractor over the corner of the boundary in question and measuring on the chart the two adjacent protractor angles between the three selected landmarks. One of the angles thus obtained is set on the sextant and the boat moved about until the two landmarks are shown by the sextant to subtend the same angle obtained from the protractor. The second angle is then placed on the sextant and the same operation gone through, and so on, first using one angle on the sextant then the other, until a point is reached where both observed sextant angles are practically identical with the protractor angles. The point thus located is the desired one and the buoy can be placed to mark the true position of the corner of the boundary in question.

If the engineer possesses two sextants and a protractor this problem is far easier of solution, as the two angles can be placed on separate sextants and the observer can quickly find the desired point where they agree with the protractor angles by using one sextant after the other without the need of resetting either.

If there are two observers, two sextants, and a protractor, it can be seen that the best conditions for both rapid and accurate hydrographic locations of points are attained; in fact, this is the method by which the buoys at the corners of the boundaries were originally placed by the hydrographic engineer to the Commission.

(3) *Magnetic bearings from offshore.*—This method of fixing a position on water is a simple and well-known one in navigation. It is available to anyone having a boat compass, and will be of special use to the State Fishery Force in investigating cases where buoys are supposed to have been moved for illegal purposes.

In the case where a buoy is supposed to have been moved from its true position the observer takes compass bearings to the three landmarks given in the last column of the tables opposite the boundary corner in question. These bearings are then corrected for the local declination,[a] and if the results agree with the published bearings, the buoy is correctly located.

In the case where the buoy is not in its correct position, or has disappeared altogether, the desired point can be determined by maneuvering the vessel until the corrected bearings agree with the ones in the tabular descriptions, when the buoy can be anchored in its proper location.

In the case where the landmarks for which the bearings are published have been destroyed or washed away, any landmark whose position is indicated on the charts can be used by getting their bearings directly from the chart by parallel rulers or a protractor and then applying them in the same manner as the ones published in the tables.

(4) *Magnetic bearings from shore.*—This method will be of special value to engineers having an ordinary surveyor's compass. The compass can be set over the point marking a "triangulation station" on shore, the name of which is given in the last column opposite the "corner" in question. The instrument is then set at the corresponding "back" bearing (corrected for local magnetic declination), given in the fourth column of the tables opposite the "corner" in question and on line with the name of the "station" being occupied. The direction thus determined will give one range on which the desired point must be located. The compass can then be moved to a second triangulation station and another range located in a similar manner. The intersection of these two range lines will give the desired point; but in general it should be checked by an additional range line determined from a third station.

(5) *Horizontal angles measured at landmarks.*—This process is a modification of the triangulation method, and will be useful to engineers who have a transit and desire considerable accuracy.

The instrument is placed over a "triangulation station," the name of which appears in the last column of the tabular description opposite the "corner" in question. The telescope is then pointed to the landmark indicated in the "Description of landmarks" as having a direction of 0° 00′ 00″ from the triangulation station being occupied by the transit. The tabular description of the boundaries is next examined and the "back" bearing of the questionable boundary "corner," from the landmark being occupied, is taken out. The angle calculated from the "back" bearing and the bearing given in parentheses alongside the zero landmark in the "Description of landmarks" is then laid off on the transit and a range line established, on which the desired point must be located. A similar process is then carried on at a second station, and so on until the position of the buoy is satisfactorily fixed.

[a] The mean magnetic declination for Anne Arundel County (in 1907) is 5° and 45′ west of north, and the annual increase is 3′.

LUMPS EAST OF CRAIGHILL CHANNEL.

(*Chesapeake Bay east of Craighill and Cutoff dredged channels—Charts Nos. 1 and 2.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station.
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 03 58.04	76 23 18.98	N 67 29 W	S 67 31 E	3683	Peach Hill.
			S 30 18 W	N 30 17 E	4132	Magothy.
			S 3 20 E	N 3 20 W	6109	Sandy Point Light.
2	39 07 41.00	76 23 18.60	N 30 34 W	S 30 35 E	3855	Seven Foot Knoll Light.
			N 76 32 W	S 76 34 E	3507	Bodkin Point (Old Tower).
			S 53 25 W	N 53 23 E	4957	Locust.
3	39 10 02.00	76 24 13.95	N 18 31 E	S 18 31 W	2738	Craighill Channel Light.
			N 47 43 W	S 47 45 E	4875	North Point (Old Tower).
			S 26 25 W	N 26 24 E	4398	Bodkin Point (Old Tower).
4	39 09 06.91	76 21 47.76	N 33 40 W	S 33 42 E	5352	Craighill Channel Light.
			N 84 27 W	S 84 28 E	4366	Seven Foot Knoll Light.
			S 70 16 W	N 70 14 E	6159	Bodkin Point (Old Tower).
5	38 08 06.00	76. 21 00.00	N 32 58 W	S 32 59 E	7758	Craighill Channel Light.
			N 66 08 W	S 66 10 E	6123	Seven Foot Knoll Light.
			S 89 48 W	N 89 46 E	7056	Bodkin Point (Old Tower).
6	39 05 42.40	76 21 00.00	N 55 39 W	S 55 42 E	8540	Bodkin Point (Old Tower).
			N 82 11 W	S 82 14 E	7695	Locust.
			S 73 22 W	N 73 20 E	7364	Peach Hill.
7	39 03 58.04	76 22 40.60	N 72 16 W	S 72 18 E	4631	Peach Hill.
			S 40 56 W	N 40 55 E	4721	Magothy.
			S 6 08 W	N 6 08 E	6136	Sandy Point Light.

BODKIN POINT NORTH.

(*Chesapeake Bay off Bodkin Creek—Chart No. 1.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 08 09.93	76 24 48.59	N 9 45 E	S 9 45 W	2377	Seven Foot Knoll Light.
			S 81 19 W	N 81 19 E	1060	Bodkin Point (Old Tower).
			S 22 20 W	N 22 20 E	4251	Locust.
2	39 08 12.00	76 25 34.63	S 35 13 E	N 35 12 W	281	Bodkin Point (Old Tower).
			N 35 20 E	S 35 21 W	2786	Seven Foot Knoll Light.
			N 12 02 W	S 12 03 E	7144	North Point (Old Tower).
3	39 09 17.05	76 25 55.94	S 16 35 E	N 16 35 W	2528	Bodkin Point (Old Tower).
			N 87 54 E	S 87 54 W	2173	Seven Foot Knoll Light.
			N 10 59 W	S 10 59 E	4884	North Point (Old Tower).
4	39 09 34.25	76 25 38.55	S 5 03 E	N 5 02 W	3015	Bodkin Point (Old Tower).
			S 16 16 E	N 16 15 W	1786	Seven Foot Knoll Light.
			N 18 13 W	S 18 13 E	4437	North Point (Old Tower).
5	38 08 49.70	76 25 04.52	N 39 20 E	S 39 20 W	1296	Seven Foot Knoll Light.
			N 21 44 W	S 21 45 E	6155	North Point (Old Tower).
			S 22 44 W	N 22 43 E	1627	Bodkin Point (Old Tower).

BODKIN POINT SOUTH.

(*Chesapeake Bay—South of Bodkin Point—Chart No. 1.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station.
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 06 58.17	76 24 04.20	N 9 06 W	S 9 06 E	4824	Seven Foot Knoll Light.
			N 44 24 W	S 44 23 E	3164	Bodkin Point (Old Tower).
			S 61 29 W	N 61 28 E	3166	Locust.
2	39 07 03.24	76 24 40.66	N 2 26 E	S 2 26 W	4596	Seven Foot Knoll Light.
			N 31 00 W	S 31 01 E	2438	Bodkin Point (Old Tower).
			S 47 19 W	N 47 18 E	2481	Locust.
3	39 07 34.80	76 25 12.85	N 16 25 E	S 16 26 W	3678	Seven Foot Knoll Light.
			N 21 48 W	S 21 48 E	1103	Bodkin Point (Old Tower).
			S 19 36 W	N 19 36 E	2917	Locust.
4	39 08 02.58	76 24 28.22	N 2 55 W	S 2 55 E	2594	Seven Foot Knoll Light.
			N 86 49 W	S 86 50 E	1585	Bodkin Point (Old Tower).
			S 30 14 W	N 30 13 E	4273	Locust.

MOUNTAIN POINT.

(*Chesapeake Bay between Magothy River and Bodkin Point—Charts No. 1 and 2.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 03 30.57	76 25 38.60	N 6 32 E	S 6 32 W	2351	Peach Hill.
			N 34 27 W	S 34 28 E	1382	Welch.
			S 42 34 W	N 42 34 E	1446	Purse.
2	39 03 59.33	76 25 27.19	N 1 22 W	S 1 22 E	1367	Peach Hill.
			N 81 04 W	S 81 04 E	1096	Welch.
			S 32 08 W	N 32 08 E	2403	Purse.
3	39 04 28.57	76 24 55.63	N 66 13 W	S 66 13 E	943	Peach Hill.
			S 66 54 W	N 66 54 E	2079	Welch.
			S 34 55 W	N 34 54 E	3683	Purse.
4	39 06 01.40	76 25 25.60	N 1 02 W	S 1 02 E	4175	Bodkin Point (Old Tower).
			N 57 57 W	S 57 58 E	759	Locust.
			S 1 33 W	N 1 33 E	2751	Peach Hill.
5	39 06 00.00	76 24 04.22	N 27 39 W	S 27 40 E	4767	Bodkin Point (Old Tower).
			N 80 48 W	S 80 49 E	2817	Locust.
			S 39 18 W	N 39 18 E	3494	Peach Hill.
6	39 04 07.45	76 24 04.16	S 56 19 W	N 56 17 E	4160	Purse.
			S 88 12 W	N 88 11 E	3267	Welch.
			N 63 45 W	S 63 46 E	2470	Peach Hill.

SILLERY BAY.

(*Magothy River—Chart No. 1.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station.
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 05 23.54	76 26 37.39	S 87 05 W	N 87 04 E	1261	Hickory.
			S 21 21 W	N 21 21 E	478	Sillery.
			N 22 38 W	S 22 38 E	767	Bay.
2	39 05 26.75	76 27 06.72	S 70 36 W	N 70 36 E	519	Hickory.
			S 47 10 E	N 47 10 W	814	Sillery.
			N 38 22 E	S 38 22 W	767	Bay.
3	39 05 39.98	76 27 08.26	S 74 19 E	N 74 19 W	1397	Phil.
			N 73 27 E	S 73 27 W	538	Bay.
			S 36 01 W	N 36 01 E	766	Hickory.

PEACH HILL.

(*Magothy River—Chart No. 2.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 04 48.75	76 27 07.25	N 40 00 E	S 40 00 W	949	Sillery.
			N 23 16 W	S 23 16 E	1206	Hickory.
			S 74 26 W	N 74 26 E	677	Dobbins.
2	39 05 02.48	76 27 03.85	N 63 00 E	S 63 00 W	585	Sillery.
			N 41 13 W	S 41 14 E	858	Hickory.
			S 49 05 W	N 49 05 E	984	Dobbins.
3	39 04 51.06	76 26 49.96	N 1 09 E	S 1 09 W	1803	Bay.
			N 41 59 W	S 42 00 E	1392	Hickory.
			S 76 50 W	N 76 50 E	1138	Dobbins.

WELCH.

(*Magothy River—Chart No. 2.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 04 10.13	76 26 38.98	N 51 16 W	S 51 16 E	1791	Dobbins.
			S 56 29 W	N 56 28 E	1972	Revell.
			S 14 16 E	N 14 15 W	2475	Purse.
2	39 04 13.90	76 26 45.96	N 48 04 E	S 48 04 W	453	Bluff.
			N 50 41 W	S 50 42 E	1569	Dobbins.
			S 50 13 W	N 50 12 E	1901	Revell.
3	39 04 41.27	76 27 03.46	N 22 57 W	S 22 57 E	1479	Hickory.
			N 84 38 W	S 84 38 E	757	Dobbins.
			S 25 04 W	N 25 03 E	2361	Revell.
4	39 04 43.49	76 26 51.33	N 34 50 W	S 34 50 E	1567	Hickory.
			S 89 47 W	N 89 47 E	1073	Dobbins.
			S 30 47 W	N 30 47 E	2578	Revell.

PARK.

(*Magothy River—Chart No. 2.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station.
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 04 24.25	76 28 47.64	N 27 06 E	S 27 06 W	825	Iron.
			S 85 32 W	N 85 31 E	2137	Ferry.
			S 9 01 W	N 9 01 E	796	Huddle.
2	39 04 39.77	76 29 05.54	S 67 25 W	N 67 24 E	1798	Ferry.
			S 14 47 E	N 14 43 W	1355	Huddle.
			S 46 37 E	N 46 36 W	3040	Revell.
3	39 04 43.82	76 28 59.65	S 65 31 W	N 65 30 E	1994	Ferry.
			S 7 31 E	N 7 31 W	1459	Huddle.
			S 42 44 E	N 42 43 W	3028	Revell.
4	39 04 27.92	76 28 39.59	N 15 02 E	S 15 02 W	632	Iron.
			S 82 56 W	N 82 55 E	2360	Ferry.
			S 20 17 W	N 20 17 E	971	Huddle.

UMPHASIS.

(*Magothy River—Chart No. 2.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 03 53.86	76 29 16.45	N 69 22 E	S 69 23 W	676	Huddle.
			N 44 30 W	S 44 30 E	2223	Ham.
			N 54 44 W	S 54 45 E	3428	Horn.
2	39 04 11.64	76 29 02.84	N 81 30 W	S 81 30 E	1750	Ferry.
			S 37 14 E	N 37 14 W	454	Huddle.
			N 33 46 E	S 33 46 W	1394	Iron.
3	39 04 10.87	76 28 45.31	N 82 36 W	S 82 37 E	2210	Ferry
			S 29 01 W	N 29 01 E	384	Huddle.
			S 56 25 E	N 56 25 W	2014	Revell.

BLACK.

(*Magothy River—Chart No. 2.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 03 47.41	76 28 17.54	N 66 27 E	S 66 28 W	2993	Bluff.
			N 11 52 W	S 11 53 E	2020	Iron.
			N 63 34 W	S 63 34 E	1024	Huddle.
2	39 03 48.38	76 28 29.45	N 69 10 E	S 69 11 W	3271	Bluff.
			N 3 01 W	S 3 01 E	1947	Iron.
			N 54 58 W	S 54 58 E	737	Huddle.
3	39 03 54.30	76 28 31.69	N 72 49 E	S 72 50 W	3262	Bluff.
			N 1 26 W	S 1 26 E	1744	Iron.
			N 67 42 W	S 67 42 E	588	Huddle.
4	39 03 59.98	76 28 13.76	N 73 44 E	S 73 45 W	2755	Bluff.
			N 18 21 W	S 18 21 E	1636	Iron.
			N 88 13 W	S 88 13 E	1016	Huddle.

PERSIMMON.

(*Magothy River—Chart No. 2.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 03 16.00	76 26 46.33	S 54 28 E	N 54 28 W	986	Purse.
			N 31 28 E	S 31 28 W	1913	Welch.
			N 22 14 W	S 22 14 E	3183	Dobbins.
2	39 03 28.52	76 26 24.15	S 12 11 E	N 12 11 W	1018	Purse.
			N 18 57 E	S 18 57 W	1278	Welch.
			N 35 18 W	S 35 18 E	3093	Dobbins.
3	39 03 22.07	76 26 06.65	N 1 48 W	S 1 48 E	1427	Welch.
			N 39 20 W	S 39 21 E	3545	Dobbins.
			S 17 22 W	N 17 22 E	815	Purse.

OUTER MAGOTHY.

(*Chesapeake Bay between Sandy Point and Magothy River—Chart No. 2.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 02 06.32	76 24 06.90	N 76 20 W	S 76 20 E	848	Magothy.
			S 13 38 E	N 13 38 W	1320	Corn.
			S 34 43 E	N 34 43 W	2837	Sandy Point Light.
2	39 03 14.62	76 26 08.00	S 21 17 W	N 21 16 E	565	Purse.
			S 48 19 E	N 48 18 W	3163	Magothy.
			N 0 19 W	S 0 19 E	1679	Welch.
3	39 03 23.58	76 25 53.64	S 35 06 W	N 35 06 E	1014	Purse.
			S 39 31 E	N 39 31 W	3118	Magothy.
			N 15 42 W	S 15 42 E	1433	Welch.
4	39 03 12.25	76 24 06.11	S 82 33 W	N 82 32 E	3439	Purse.
			S 22 39 W	N 22 39 E	2193	Magothy.
			S 19 18 E	N 19 17 W	4826	Sandy Point Light.
5	39 02 21.04	76 23 17.27	N 74 44 W	S 74 46 E	4867	Purse.
			S 82 05 W	N 82 05 E	2149	Magothy.
			S 6 15 E	N 6 15 W	2844	Sandy Point Light.

SANDY POINT NORTH.

(*Chesapeake Bay—North of Sandy Point—Chart No. 2.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station.
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 01 00.00	76 23 26.00	S 80 01 E	N 80 01 W	547	Sandy Point Light.
			N 38 41 W	S 38 41 E	1222	Corn.
			S 39 01 W	N 39 01 E	752	Bay Side.
2	39 01 33.96	76 23 31.39	N 53 41 W	S 53 42 E	2182	Magothy.
			S 72 53 W	N 72 53 E	652	Corn.
			S 28 47 E	N 28 47 W	1415	Sandy Point Light.
3	39 02 06.32	76 24 06.90	N 76 20 W	S 76 20 E	848	Magothy.
			S 13 38 E	N 13 38 W	1320	Corn.
			S 34 43 E	N 34 43 W	2837	Sandy Point Light.
4	39 02 21.04	76 23 17.27	N 74 44 W	S 74 46 E	4867	Purse.
			S 82 05 W	N 82 05 E	2149	Magothy.
			S 6 15 E	N 6 15 W	2844	Sandy Point Light.
5	39 01 09.03	76 22 54.49	N 67 51 W	S 67 52 E	1721	Corn.
			S 55 42 W	N 55 41 E	1577	Bay Side.
			S 35 56 W	N 35 56 E	493	Sandy Point Light.

SANDY POINT SOUTH.

(*Chesapeake Bay between Sandy Point and Severn River—Chart No. 2.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 59 25.24	76 24 12.60	N 29 39 E	S 29 40 W	3568	Sandy Point Light.
			N 54 24 W	S 54 25 E	1135	Clump.
			S 76 41 W	N 76 40 E	1889	Hackett.
2	38 59 31.59	76 24 22.86	N 35 11 E	S 35 12 W	3532	Sandy Point Light.
			N 55 38 W	S 55 38 E	792	Clump.
			S 67 30 W	N 67 29 E	1697	Hackett.
3	39 00 09.70	76 24 09.40	N 46 24 E	S 46 24 W	2322	Sandy Point Light.
			N 31 01 E	S 31 01 W	1298	Bay Side.
			S 50 14 W	N 50 14 E	1311	Clump.
4	39 00 40.02	76 23 19.79	N 33 01 E	S 33 01 W	690	Sandy Point Light.
			N 81 59 W	S 81 59 E	643	Bay Side.
			S 51 12 W	N 51 11 E	2969	Clump.
5	39 00 39.60	76 23 10.25	N 11 55 E	S 11 55 W	608	Sandy Point Light.
			N 83 20 W	S 83 20 E	893	Bay Side.
			S 54 15 W	N 54 14 E	3161	Clump.
6	39 00 09.44	76 23 25.80	N 18 21 E	S 18 22 W	1696	Sandy Point Light.
			N 23 07 W	S 23 07 E	1222	Bay Side.
			S 68 57 W	N 68 56 E	2310	Clump.
7	38 59 30.91	76 24 00.00	N 26 14 E	S 26 15 W	3244	Sandy Point Light.
			N 69 29 W	S 69 29 E	1340	Clump.
			S 73 54 W	N 73 53 E	2258	Hackett.

HACKETT POINT.

(*Annapolis Roads—Chart No. 2.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 57 49.56	76 25 51.90	N 15 32 E	S 15 32 W	2897	Hackett.
			N 76 41 W	S 76 42 E	2281	Greenbury Point Light.
			S 35 05 W	N 35 04 E	3260	Tolly.
2	38 58 13.82	76 26 05.14	N 29 40 E	S 29 41 W	2271	Hackett.
			S 81 08 W	N 81 07 E	1894	Greenbury Point Light.
			S 23 38 W	N 23 37 E	3806	Tolly.
3	38 58 49.60	76 25 50.84	N 44 17 E	S 44 17 W	1073	Hackett.
			N 17 06 W	S 17 06 E	1960	Chase.
			S 56 19 W	N 56 18 E	2702	Greenbury Point Light.
4	38 58 52.60	76 25 22.77	N 27 39 E	S 27 40 W	1989	Clump.
			N 0 46 E	S 0 46 W	665	Hackett.
			S 61 50 W	N 61 48 E	3388	Greenbury Point Light.
5	38 59 31.59	76 24 22.86	N 35 11 E	S 35 12 W	3532	Sandy Point Light.
			N 55 38 W	S 55 38 E	792	Clump.
			S 67 30 W	N 67 29 E	1697	Hackett.
6	38 59 25.24	76 24 12.60	N 29 39 E	S 29 40 W	3568	Sandy Point Light.
			N 54 24 W	S 54 25 E	1135	Clump.
			S 76 41 W	N 76 40 E	1889	Hackett.
7	38 59 02.50	76 24 18.26	N 28 29 W	S 28 29 E	1625	Clump.
			N 78 54 W	S 78 54 E	1721	Hackett.
			S 67 35 W	N 67 33 E	5068	Greenbury Point Light.
8	38 57 54.38	76 24 54.95	N 15 23 W	S 15 23 E	2726	Hackett.
			N 84 25 W	S 84 26 E	3737	Greenbury Point Light.
			S 50 00 W	N 49 59 E	4404	Tolly.

WHITEHALL CREEK.

(*Whitehall Bay—Chart No. 2.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 59 30.41	76 25 55.80	N 41 54 W	S 41 55 E	667	Chase.
			S 36 22 W	N 36 21 E	3571	Greenbury Point Light.
			S 60 41 E	N 60 41 W	479	Spit.
2	38 59 36.98	76 26 27.62	S 22 27 W	N 22 27 E	3351	Greenbury Point Light.
			S 70 02 E	N 70 02 W	1335	Spit.
			N 54 54 E	S 54 54 W	479	Chase.
3	38 59 39.61	76 26 27.17	S 22 04 W	N 22 04 E	3437	Greenbury Point Light.
			S 66 20 E	N 66 20 W	1357	Spit.
			N 63 51 E	S 63 51 W	423	Chase.
4	38 59 39.62	76 26 06.79	N 40 04 W	S 40 04 E	243	Chase.
			S 29 51 W	N 29 50 E	3672	Greenbury Point Light.
			S 52 22 E	N 52 21 W	892	Spit.
5	38 59 48.92	76 25 53.42	S 75 56 W	N 75 55 E	524	Chase.
			S 22 27 E	N 22 27 W	930	Spit.
			S 85 27 E	N 85 26 W	1736	Clump.

SAND SPIT.

(*Whitehall Bay—Chart No. 2.*)

Corner of bar	Latitude	Longitude	True bearing: Forward	True bearing: Back	Distance	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 59 28.58	76 25 40.10	N 56 58 W	S 56 59 E	1025	Chase.
			S 1 24 E	N 1 24 W	173	Spit.
			N 68 19 E	S 68 20 W	1484	Clump.
2	38 59 32.55	76 25 43.61	S 17 29 E	N 17 29 W	322	Spit.
			N 74 16 E	S 74 17 W	1529	Clump.
			N 61 01 W	S 61 02 E	876	Chase.
3	38 59 36.64	76 25 31.06	N 75 21 W	S 75 22 E	1131	Chase.
			S 27 44 W	N 27 44 E	502	Spit.
			N 76 23 E	S 76 23 W	1175	Clump.

WHITEHALL.

(*Annapolis Roads—Chart No. 2.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 57 34.40	76 26 50.62	N 23 37 W	S 23 38 E	1912	Greenbury.
			S 63 14 W	N 63 13 E	2154	Gram.
			S 8 38 W	N 8 38 E	2183	Tolly.
2	38 57 58.45	76 27 23.80	S 10 26 W	N 10 26 E	3018	Tolly.
			N 41 27 E	S 41 27 W	302	Greenbury Point Light.
			N 66 13 W	S 66 13 E	1801	Horn.
3	38 58 31.52	76 26 46.72	N 19 48 E	S 19 49 W	2645	Chase.
			S 78 35 W	N 78 35 E	886	Greenbury.
			S 41 08 W	N 41 08 E	1183	Greenbury Point Light.
4	38 58 57.50	76 26 47.47	S 23 12 W	N 23 12 E	1920	Greenbury Point Light.
			N 63 46 E	S 63 47 W	1982	Spit.
			N 29 38 E	S 29 38 W	1848	Chase.
5	38 59 20.75	76 26 27.40	S 26 45 W	N 26 45 E	2855	Greenbury Point Light.
			N 85 49 E	S 85 49 W	1252	Spit.
			N 25 08 E	S 25 08 W	911	Chase.
6	38 59 09.60	76 26 21.62	N 66 55 E	S 66 56 W	1192	Spit.
			N 11 02 E	S 11 02 W	1222	Chase.
			S 46 20 W	N 46 20 E	2114	Greenbury.
7	38 58 45.22	76 26 28.90	N 44 59 E	S 44 59 W	1823	Spit.
			N 11 53 E	S 11 53 W	2065	Chase.
			S 64 31 W	N 64 31 E	1482	Greenbury.
8	38 58 06.96	76 26 17.16	N 33 10 E	S 33 10 W	2633	Hackett.
			S 87 45 W	N 87 45 E	1556	Greenbury Point Light.
			S 20 22 W	N 20 22 E	3473	Tolly.

WRECK BUOY.

(*Annapolis Roads—Chart No. 2.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station.
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 57 45.00	76 26 08.80	N 1 28 W	S 1 28 E	4053	Chase.
			N 69 03 W	S 69 03 E	1901	Greenbury Point Light.
			S 29 36 W	N 29 36 E	2893	Tolly.
2	38 57 45.74	76 26 24.60	N 4 26 E	S 4 26 W	4039	Chase.
			N 64 17 W	S 64 17 E	1508	Greenbury Point Light.
			S 21 45 W	N 21 44 E	2735	Tolly.
3	38 57 56.16	76 26 26.80	N 5 45 E	S 5 45 W	3694	Chase.
			N 76 53 W	S 76 54 E	1336	Greenbury Point Light.
			S 18 17 W	N 18 16 E	3045	Tolly.
4	38 57 57.21	76 25 57.41	N 6 20 W	S 6 20 E	3662	Chase.
			N 82 38 W	S 82 39 E	2092	Greenbury Point Light.
			S 30 34 W	N 30 34 E	3400	Tolly.

TOLLY POINT.

(*Annapolis Roads—Charts Nos. 2 and 3.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 55 51.02	76 25 58.66	N 24 18 W	S 24 17 E	4963	Greenbury Point Light.
			N 51 56 W	S 51 56 E	2154	Tolly.
			S 4 31 W	N 4 31 E	3883	Thomas Point Light.
2	38 56 45.52	76 27 13.00	S 27 13 E	N 27 12 W	573	Tolly.
			N 30 27 E	S 30 28 W	5744	Hackett.
			N 40 08 W	S 40 09 E	2884	Start.
3	38 57 28.74	76 27 32.60	N 60 54 W	S 60 54 E	1537	Start.
			S 46 22 W	N 46 22 E	1130	Gram.
			S 21 35 E	N 21 35 W	2115	Tolly.
4	38 57 42.02	76 27 10.60	N 10 44 W	S 10 45 E	794	Greenbury Point Light.
			S 48 42 W	N 48 42 E	1859	Gram.
			S 4 42 E	N 4 42 W	2422	Tolly.
5	38 57 13.35	76 26 51.19	N 20 40 W	S 20 40 E	1867	Greenbury Point Light.
			S 82 14 W	N 82 14 E	1926	Gram.
			S 12 11 W	N 12 11 E	1481	Tolly.
6	38 57 03.78	76 26 25.24	N 20 52 E	S 20 53 W	4640	Hackett.
			N 33 02 W	S 33 02 E	2463	Greenbury Point Light.
			S 41 31 W	N 41 31 E	1503	Tolly.
7	38 56 13.81	76 25 32.62	N 2 33 E	S 2 33 W	6027	Hackett.
			N 36 00 W	S 36 01 E	4641	Greenbury Point Light.
			N 76 46 W	S 76 46 E	2447	Tolly.

CHINKS POINT.

(*Annapolis Roads—Chart No. 2.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station.
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 57 17.56	76 28 00.09	N 35 45 E	S 35 44 W	1977	Greenbury Point Light.
			N 28 51 W	S 28 51 E	1284	Start.
			S 13 07 W	N 13 07 E	413	Gram.
2	38 57 53.74	76 28 09.53	S 75 31 W	N 75 31 E	383	Start.
			S 5 27 E	N 5 27 W	1629	Gram.
			N 74 40 E	S 74 41 W	1456	Greenbury Point Light.
3	38 57 59.42	76 27 47.38	S 73 14 W	N 73 14 E	996	Start.
			S 13 17 W	N 13 17 E	1863	Gram.
			N 76 45 E	S 76 45 W	843	Greenbury Point Light.
4	38 57 42.02	76 27 10.60	N 10 44 W	S 10 45 E	794	Greenbury Point Light.
			S 48 42 W	N 48 42 E	1859	Gram.
			S 4 42 E	N 4 42 W	2422	Tolly.
5	38 57 28.74	76 27 32.60	N 60 54 W	S 60 54 E	1537	Start.
			S 46 22 W	N 46 22 E	1130	Gram.
			S 21 35 E	N 21 35 W	2115	Tolly.

INSIDE GREENBURY POINT.

(*Lower Severn River—Chart No. 2.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 58 13.37	76 27 29.65	S 61 56 W	N 61 55 E	1610	Start.
			S 51 54 E	N 51 54 W	449	Greenbury Point Light.
			N 30 56 E	S 30 56 W	510	Greenbury.
2	38 58 14.06	76 27 36.89	S 57 35 W	N 57 35 E	1457	Start.
			S 61 06 E	N 61 06 W	622	Greenbury Point Light.
			N 47 34 E	S 47 34 W	612	Greenbury.
3	38 58 55.75	76 27 29.30	S 82 28 W	N 82 28 E	3156	State House Dome.
			S 51 15 W	N 51 15 E	1927	Horn.
			S 11 25 E	N 11 24 W	1741	Greenbury Point Light.
4	38 58 54.50	76 27 18.35	S 83 48 W	N 83 48 E	3438	State House Dome.
			S 56 59 W	N 56 58 E	2137	Horn.
			S 1 56 E	N 1 56 W	1666	Greenbury Point Light.

HORN POINT.

(*Mouth of Severn River—Chart No. 2.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station.
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 57 59.58	76 28 13.62	N 82 55 E	S 82 55 W	1523	Greenbury Point Light.
			N 26 02 W	S 26 02 E	766	Horn.
			S 41 57 W	N 41 56 E	395	Start.
2	38 58 25.61	76 28 14.43	N 72 44 W	S 72 45 E	2028	State House Dome.
			S 58 57 W	N 58 57 E	367	Horn.
			S 65 46 E	N 65 46 W	1681	Greenbury Point Light.
3	38 58 34.38	76 28 46.21	S 67 25 E	N 67 26 W	2566	Greenbury Point Light.
			N 20 20 E	S 20 20 W	1339	Bluff.
			N 74 27 W	S 74 28 E	1146	State House Dome.
4	38 58 49.44	76 28 17.05	N 22 03 W	S 22 03 E	806	Bluff.
			S 83 54 W	N 83 53 E	1883	State House Dome.
			S 47 00 E	N 46 59 W	2190	Greenbury Point Light.
5	38 58 40.06	76 28 06.03	N 29 08 W	S 29 08 E	1217	Bluff.
			N 86 56 W	S 86 57 E	2165	State House Dome.
			S 48 05 E	N 48 05 W	1763	Greenbury Point Light.
6	38 58 07.42	76 27 49.50	S 85 00 E	N 85 00 W	879	Greenbury Point Light.
			N 1 08 E	S 1 08 W	1695	Fort.
			S 58 11 W	N 58 11 E	1056	Start.

OLD FORT.

(*Lower Severn River—Chart No. 2.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 58 41.78	76 27 42.38	N 15 57 W	S 15 57 E	561	Fort.
			S 57 38 W	N 57 37 E	1375	Horn.
			S 48 52 E	N 48 51 W	793	Greenbury.
2	38 58 49.56	76 28 09.64	N 64 08 E	S 64 09 W	627	Fort.
			N 33 48 W	S 33 48 E	895	Bluff.
			S 23 51 W	N 23 51 E	1090	Horn.
3	38 58 56.77	76 27 57.56	S 79 22 W	N 79 22 E	2427	State House Dome.
			S 31 28 W	N 31 28 E	1453	Horn.
			S 44 08 E	N 44 08 W	1430	Greenbury.
4	38 58 49.85	76 27 37.41	S 85 48 W	N 85 47 E	2923	State House Dome.
			S 52 01 W	N 52 00 E	1636	Horn.
			S 30 26 E	N 30 26 W	921	Greenbury.

LITTLE SANDY.

(*Lower Severn River—Chart No. 2.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 58 49.56	76 28 09.64	N 64 08 E	S 64 09 W	627	Fort.
			N 33 48 W	S 33 48 E	895	Bluff.
			S 23 51 W	N 23 51 E	1090	Horn.
2	38 58 59.72	76 28 16.91	N 37 24 W	S 37 24 E	504	Bluff.
			S 73 45 W	N 73 44 E	1954	State House Dome.
			S 40 58 E	N 40 57 W	2438	Greenbury Light.
3	38 58 56.77	76 27 57.56	S 79 22 W	N 79 22 E	2427	State House Dome.
			S 31 28 W	N 31 28 E	1453	Horn.
			S 44 08 E	N 44 08 W	1430	Greenbury.

CRECES COVE.

(*Lower Severn River—Chart No. 2.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 59 13.44	76 28 38.63	N 39 18 W	S 39 19 E	1194	Brice.
			S 52 15 W	N 52 14 E	1646	State House Dome.
			S 76 47 E	N 76 47 W	272	Bluff.
2	38 59 23.31	76 28 39.65	N 50 59 W	S 51 00 E	938	Brice.
			S 43 34 W	N 43 33 E	1854	State House Dome.
			S 9 17 E	N 9 17 W	2164	Horn
3	38 59 23.65	76 28 33.55	S 85 24 W	N 85 24 E	1498	Hospital Cupola.
			S 46 43 W	N 46 42 E	1975	State House Dome.
			S 5 01 E	N 5 01 W	2155	Horn.
4	38 59 13.78	76 28 33.22	N 44 34 W	S 44 34 E	1281	Brice.
			S 54 46 W	N 54 46 E	1771	State House Dome.
			S 59 03 E	N 59 03 W	143	Bluff.

FERRY POINT.

(*Lower Severn River—Chart No. 2.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 59 23.08	76 28 49.50	N 38 05 W	S 38 05 E	760	Brice.
			S 84 37 W	N 84 37 E	1078	Hospital Cupola.
			S 37 19 W	N 37 19 E	1679	State House Dome.
2	38 59 34.03	76 28 58.13	N 46 39 W	S 46 39 E	334	Brice.
			S 60 57 W	N 60 56 E	969	Hospital Cupola.
			S 24 53 W	N 24 53 E	1879	State House Dome.
3	38 59 36.13	76 28 54.03	N 65 41 W	S 65 41 E	385	Brice.
			S 60 27 W	N 60 26 E	1098	Hospital Cupola.
			S 26 51 W	N 26 51 E	1989	State House Dome.
4	38 59 24.91	76 28 45.70	N 46 43 W	S 46 43 E	783	Brice.
			S 82 06 W	N 82 06 E	1185	Hospital Cupola.
			S 38 40 W	N 38 40 E	1789	State House Dome.

PEACH ORCHARD.

(*Middle Severn River—Chart No. 2.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station.
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 59 36.22	76 29 17.07	N 58 41 E	S 58 41 W	300	Brice.
			N 59 42 W	S 59 42 E	644	Field.
			S 32 37 W	N 32 36 E	646	Hospital Cupola.
2	38 59 46.01	76 29 13.91	N 31 34 W	S 31 34 E	1318	Knob.
			S 89 33 W	N 89 33 E	640	Field.
			S 44 37 E	N 44 37 W	245	Brice.
3	39 00 06.98	76 29 25.53	N 42 43 W	S 42 43 E	566	Knob.
			S 25 06 W	N 25 06 E	786	Field.
			S 28 25 E	N 28 25 W	1005	Brice.
4	39 00 09.77	76 29 35.76	N 51 13 W	S 51 13 E	1219	Spring.
			S 4 34 W	N 4 34 E	809	Field.
			S 37 27 E	N 37 27 W	1229	Brice.
5	39 00 15.30	76 29 29.75	N 63 36 W	S 63 36 E	305	Knob.
			S 12 38 W	N 12 38 E	1017	Field.
			S 26 54 E	N 26 53 W	1304	Brice.
6	39 00 12.79	76 29 23.64	N 63 06 W	S 63 06 E	487	Knob.
			S 22 53 W	N 22 53 E	985	Field.
			S 21 41 E	N 21 41 W	1159	Brice.
7	38 59 58.56	76 29 12.85	N 45 43 W	S 45 43 E	1003	Knob.
			S 57 19 W	N 57 18 E	793	Field.
			S 13 35 E	N 13 35 W	615	Brice.
8	38 59 39.41	76 29 10.39	N 59 01 E	S 59 01 W	93	Brice.
			N 73 27 W	S 73 28 E	763	Field.
			S 38 48 W	N 38 48 E	837	Hospital Cupola.

WEEMS LOWER.

(*Middle Severn River—Chart No. 2.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 59 38.30	76 29 26.54	N 80 24 E	S 80 25 W	512	Brice.
			N 50 18 W	S 50 18 E	399	Field.
			S 9 09 W	N 9 09 E	623	Hospital Cupola.
2	38 59 39.00	76 29 33.72	S 8 02 E	N 8 02 W	644	Hospital Cupola.
			N 84 55 E	S 84 55 W	697	Brice.
			N 27 03 W	S 27 03 E	260	Field.
3	38 59 45.23	76 29 32.87	N 81 24 W	S 81 24 E	142	Field.
			S 4 34 E	N 4 34 W	851	Hospital Cupola.
			S 77 32 E	N 77 32 W	688	Brice.
4	38 59 44.58	76 29 25.80	N 82 28 W	S 82 28 E	329	Field.
			S 8 09 W	N 8 09 E	834	Hospital Cupola.
			S 75 24 E	N 75 24 W	502	Brice.

WEEMS UPPER.

(*Middle Severn River—Chart No. 2.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station.
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 59 50.39	76 29 41.68	S 70 21 E	N 70 21 W	959	Brice.
			N 2 24 E	S 2 24 W	977	Knob.
			N 49 34 W	S 49 35 E	1543	Weems.
2	38 59 57.50	76 30 00.96	N 68 16 E	S 68 16 W	1518	Brice.
			N 36 41 E	S 36 41 W	918	Knob.
			N 41 15 W	S 41 15 E	1012	Weems.
3	38 59 59.38	76 29 37.93	S 52 08 E	N 52 08 W	1019	Brice.
			N 4 55 W	S 4 55 E	675	Knob.
			N 61 17 W	S 61 18 E	1451	Weems.

WADE.

(*Middle Severn River—Chart No. 2.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 00 02.43	76 29 54.00	S 59 18 E	N 59 18 W	1427	Brice.
			N 32 39 E	S 32 39 W	677	Knob.
			N 24 57 W	S 24 57 E	1115	Spring.
2	39 00 15.01	76 30 28.50	S 61 39 E	N 61 38 W	2427	Brice.
			N 83 29 E	S 83 30 W	1282	Knob.
			N 36 41 E	S 36 41 W	732	Spring.
3	39 00 11.88	76 30 06.26	S 55 58 E	N 55 57 W	1871	Brice.
			N 69 57 E	S 69 57 W	732	Knob.
			N 12 03 W	S 12 03 E	709	Spring.

TRACES HOLLOW.

(*Middle Severn River—Chart No. 2.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station.
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 00 12.22	76 29 44.45	N 76 30 W	S 76 31 E	1133	Weems.
			S 10 28 E	N 10 28 W	904	Field.
			S 42 41 E	N 42 40 W	1440	Brice.
2	39 00 20.81	76 29 53.66	N 52 01 W	S 52 02 E	1801	Cool.
			S 88 19 W	N 88 19 E	860	Weems.
			S 19 02 E	N 19 03 W	1247	Field.
3	39 00 30.13	76 30 17.58	N 44 52 W	S 44 52 E	1121	Cool.
			S 34 06 W	N 34 06 E	410	Weems.
			S 34 46 E	N 34 45 W	1271	Field.
4	39 00 40.05	76 30 24.06	N 53 27 W	S 53 27 E	772	Cool.
			S 5 01 W	N 5 01 E	677	Weems.
			S 33 26 E	N 33 26 W	2189	Field.
5	39 00 29.69	76 30 11.27	N 49 47 W	S 49 47 E	1253	Cool.
			S 50 38 W	N 50 38 E	512	Weems.
			S 30 29 E	N 30 29 W	1715	Field.
6	39 00 27.30	76 29 54.97	S 73 30 W	N 73 30 E	851	Weems.
			S 17 31 E	N 17 31 W	1465	Field.
			S 38 39 E	N 38 38 W	2007	Brice.
7	39 00 15.52	76 29 37.44	N 83 13 W	S 83 13 E	1295	Weems.
			S 1 10 W	N 1 10 E	1001	Field.
			S 34 05 E	N 34 05 W	1413	Brice.

SHARP POINT.

(*Middle Severn River—Chart No. 2.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 00 21.87	76 30 22.03	S 85 32 E	N 85 32 W	1106	Knob.
			N 36 54 E	S 36 54 W	445	Spring.
			N 65 00 W	S 65 01 E	1145	Luce.
2	39 00 28.40	76 30 54.04	N 83 05 E	S 83 05 W	1118	Spring.
			N 11 11 E	S 11 11 W	869	Cool.
			N 36 35 W	S 36 35 E	328	Luce.
3	39 00 40.02	76 30 51.60	N 62 07 W	S 62 07 E	1237	Salt.
			S 63 46 W	N 63 45 E	290	Luce.
			S 44 40 E	N 44 40 W	947	Weems.

SALTWORK.

(*Upper Severn River—Chart No. 2.*)

Corner of bar	Latitude.	Longitude	True bearing: Forward	True bearing: Back	Distance	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 00 38.76	76 30 58.06	N 56 04 W	S 56 05 E	1112	Salt.
			S 46 25 W	N 46 25 E	125	Luce.
			S 52 57 E	N 52 58 W	1047	Weems.
2	39 00 45.40	76 31 17.03	S 52 53 E	N 52 53 W	513	Luce.
			N 10 59 E	S 10 59 W	852	Chase.
			N 46 53 W	S 46 53 E	581	Salt.
3	39 00 48.27	76 31 15.62	S 42 28 E	N 42 28 W	551	Luce.
			N 9 36 E	S 9 36 W	750	Chase.
			N 56 56 W	S 56 56 E	550	Salt.
4	39 00 41.62	76 30 56.55	N 61 25 W	S 61 26 E	1096	Salt.
			S 35 28 W	N 35 28 E	223	Luce.
			S 47 35 E	N 47 35 W	1078	Weems.

ROCK POINT LOWER.

(*Upper Severn River—Chart No. 2.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 00 48.77	76 30 47.67	N 40 10 W	S 40 10 E	946	Chase.
			S 40 39 W	N 40 39 E	558	Luce.
			S 59 39 E	N 59 39 W	1091	Spring.
2	39 00 53.50	76 30 55.06	N 36 25 W	S 36 25 E	700	Chase.
			S 16 10 W	N 16 10 E	607	Luce.
			S 57 58 E	N 57 58 W	1341	Spring.
3	39 01 07.97	76 30 56.36	N 78 48 W	S 78 48 E	389	Chase.
			S 7 10 W	N 7 10 E	1079	Luce.
			S 26 05 E	N 26 05 W	1799	Weems.

CHASE.

(*Upper Severn River—Chart No. 2.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 01 06.64	76 31 16.52	S 60 06 E	N 60 06 W	877	Cool.
			N 51 03 E	S 51 03 W	191	Chase.
			N 62 12 W	S 62 12 E	681	Clem.
2	39 01 21.97	76 31 17.74	N 27 51 W	S 27 51 E	355	Point.
			S 70 47 W	N 70 47 E	605	Clem.
			S 25 51 W	N 25 51 E	930	Salt.
3	39 01 08.33	76 31 11.62	S 51 57 E	N 51 57 W	802	Cool.
			N 17 30 E	S 17 30 W	67	Chase.
			N 70 22 W	S 70 23 E	778	Clem.

CLEM POINT.

(*Upper Severn River—Chart No. 2.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station.
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 01 16.96	76 31 34.33	S 69 46 E	N 69 46 W	658	Chase.
			N 29 11 E	S 29 12 W	553	Point.
			N 2 06 E	S 2 06 W	1312	Bight.
2	39 01 28.05	76 31 53.55	S 61 49 E	N 61 49 W	1274	Chase.
			N 81 58 E	S 81 58 W	783	Point.
			N 30 35 E	S 30 35 W	1088	Bight.
3	39 01 25.75	76 31 36.87	S 52 33 E	N 52 33 W	862	Chase.
			N 60 57 E	S 60 57 W	385	Point.
			N 6 28 E	S 6 28 W	1021	Bight.

POINT.

(*Upper Severn River—Chart No. 2.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 01 31.79	76 31 36.54	S 8 11 W	N 8 11 E	536	Clem.
			S 87 07 E	N 87 07 W	329	Point.
			N 7 28 E	S 7 28 W	818	Bight.
2	39 01 46.21	76 31 33.43	N 4 18 E	S 4 18 W	326	Bight.
			S 78 43 W	N 78 42 E	701	Brewer.
			S 8 51 W	N 8 50 E	1029	Clem.
3	39 01 44.38	76 31 27.74	N 17 57 W	S 17 57 E	406	Bight.
			S 84 51 W	N 84 51 E	841	Brewer.
			S 17 52 W	N 17 52 E	1003	Clem.

AISQUITH CREEK.

(*Upper Severn River—Chart No. 2.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 01 48.26	76 31 34.61	N 12 15 E	S 12 15 W	261	Bight.
			S 72 33 W	N 72 33 E	688	Brewer.
			S 6 41 W	N 6 41 E	1093	Clem.
2	39 01 56.26	76 31 43.25	N 48 07 W	S 48 07 E	639	Arnold.
			S 42 02 W	N 42 02 E	641	Brewer.
			S 87 08 E	N 87 08 W	283	Bight.
3	39 01 59.26	76 31 38.16	N 60 49 W	S 60 49 E	769	Arnold.
			S 44 17 W	N 44 17 E	807	Brewer.
			S 52 14 E	N 52 14 W	188	Bight.

BREWER (SEVERN RIVER).

(*Upper Severn River—Chart No. 2.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station.
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 01 52.03	76 32 38.08	N 85 43 E	S 85 44 W	1726	Bight.
			N 55 39 E	S 55 40 W	1097	Arnold.
			N 68 35 W	S 68 36 E	877	Bay.
2	39 01 59.72	76 32 26.03	S 49 35 E	N 49 34 W	914	Brewer.
			N 58 39 E	S 58 39 W	687	Arnold.
			N 47 53 W	S 47 54 E	2149	Long.
3	39 01 56.58	76 32 01.65	S 88 08 E	N 88 08 W	768	Bight.
			N 6 31 W	S 6 31 E	468	Arnold.
			N 84 37 W	S 84 38 E	1783	Bay.

POPPIN POINT.

(*Upper Severn River—Chart No. 2.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 01 59.21	76 32 43.64	N 70 18 E	S 70 19 W	1117	Arnold.
			N 37 47 W	S 37 48 E	1845	Long.
			N 83 21 W	S 83 21 E	675	Bay.
2	39 02 10.37	76 33 21.98	S 48 34 E	N 48 34 W	451	Bay.
			N 6 26 W	S 6 26 E	1088	Long.
			N 55 52 W	S 55 52 E	838	Island.
3	39 02 17.67	76 33 07.79	N 78 09 W	S 78 10 E	1089	Island.
			S 3 44 W	N 3 44 E	548	Bay.
			S 81 42 E	N 81 41 W	1704	Arnold.
4	39 02 06.17	76 32 46.63	N 82 51 E	S 82 52 W	1138	Arnold.
			N 40 41 W	S 40 42 E	1613	Long.
			S 75 12 W	N 75 12 E	612	Bay.

ARNOLD POINT.

(*Upper Severn River—Chart No. 2.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 02 06.40	76 32 12.40	S 22 53 E	N 22 53 W	888	Brewer.
			N 59 45 E	S 59 45 W	266	Arnold.
			N 3 52 W	S 3 52 E	1757	Swan.
2	39 02 17.75	76 32 29.85	S 33 33 E	N 33 33 W	1440	Brewer.
			S 70 08 E	N 70 07 W	733	Arnold.
			N 13 57 E	S 13 57 W	1413	Swan.
3	39 02 47.48	76 32 22.95	S 38 06 W	N 38 05 E	1970	Bay.
			S 15 36 E	N 15 35 W	2288	Brewer.
			N 23 20 E	S 23 20 W	401	Swan.
4	39 02 42.43	76 32 16.43	N 1 19 W	S 1 19 E	539	Swan.
			S 45 09 W	N 45 08 E	1955	Bay.
			S 12 18 E	N 12 18 W	2081	Brewer.
5	39 02 22.39	76 32 19.14	N 2 47 E	S 2 47 W	1216	Swan.
			S 61 52 W	N 61 51 E	1492	Bay.
			S 20 46 E	N 20 46 W	1452	Brewer.

BIG ISLAND.

(*Upper Severn River—Chart No. 2.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 02 28.99	76 34 00.56	S 55 36 E	N 55 36 W	1639	Bay.
			N 63 04 E	S 63 04 W	1002	Long.
			N 20 15 E	S 20 15 W	1613	Sharp.
2	39 02 33.62	76 34 04.88	S 53 34 E	N 53 34 W	1822	Bay.
			N 73 32 E	S 73 32 W	1050	Long.
			N 26 20 E	S 26 20 W	1515	Sharp.
3	39 02 38.13	76 33 56.80	S 45 27 E	N 45 26 W	1760	Bay.
			N 79 37 E	S 79 38 W	807	Long.
			N 20 52 E	S 20 52 W	1290	Sharp.

ROUND BAY.

(*Upper Severn River—Chart No. 2.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 02 58.56	76 33 31.65	S 13 42 E	N 13 42 W	558	Long.
			N 44 38 E	S 44 38 W	1676	High.
			N 21 22 W	S 21 22 E	554	Sharp.
2	39 03 06.69	76 33 34.04	S 13 26 E	N 13 26 W	840	Long.
			N 53 28 E	S 53 28 W	1544	High.
			N 29 53 W	S 29 53 E	279	Sharp.
3	39 03 04.34	76 33 18.90	N 40 10 E	S 40 10 W	1307	High.
			N 59 07 W	S 59 07 E	626	Sharp.
			S 15 22 W	N 15 22 E	766	Long.

ROCK POINT UPPER.

(*Upper Severn River—Chart No. 2.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 03 17.91	76 33 01.49	S 60 44 E	N 60 43 W	1344	Swan.
			N 35 26 E	S 35 26 W	664	High.
			N 56 01 W	S 56 02 E	1746	Cedar.
2	39 03 36.56	76 32 59.58	N 76 58 W	S 76 58 E	1538	Cedar.
			S 53 48 W	N 53 47 E	1296	Sharp.
			S 75 16 E	N 75 16 W	347	High.
3	39 03 37.36	76 32 54.13	N 78 58 W	S 78 59 E	1672	Cedar.
			S 56 20 W	N 56 19 E	1428	Sharp.
			S 59 00 E	N 59 00 W	223	High.
4	39 03 20.36	76 32 48.52	S 48 20 E	N 48 20 W	1113	Swan.
			N 5 28 E	S 5 28 W	460	High.
			N 63 28 W	S 63 29 E	2005	Cedar.

UNDER THE GUMS.

(*Chesapeake Bay between Annapolis Roads and Thomas Point—Chart No. 3.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 54 43.58	76 27 13.97	N 31 36 W	S 31 35 E	1262	Cottage.
			S 88 06 W	N 88 05 E	1441	Arundel.
			S 3 09 E	N 3 09 W	488	Thomas.
2	38 55 53.62	76 27 32.82	S 7 14 W	N 7 14 E	1298	Cottage.
			S 10 25 E	N 10 25 W	2891	Thomas.
			N 25 29 E	S 25 29 W	934	Bay Ridge Stack.
3	38 56 17.11	76 26 59.76	N 10 58 W	S 10 58 E	457	Tolly.
			N 83 43 W	S 83 43 E	471	Bay Ridge Stack.
			S 26 30 W	N 26 29 E	2324	Cottage.
4	38 56 09.06	76 26 48.87	N 66 51 W	S 66 51 E	821	Bay Ridge Stack.
			S 36 13 W	N 36 12 E	2242	Cottage.
			S 12 48 E	N 12 48 W	4594	Thomas Point Light.
5	38 55 25.41	76 26 56.64	N 17 03 W	S 17 04 E	1878	Bay Ridge Stack.
			S 73 17 W	N 73 17 E	1169	Cottage.
			S 22 07 E	N 22 07 W	3248	Thomas Point Light.
6	38 54 50.14	76 26 49.48	N 56 53 W	S 56 53 E	1563	Cottage.
			S 41 12 W	N 41 12 E	937	Thomas.
			S 29 38 E	N 29 37 W	2091	Thomas Point Light.

THOMAS POINT NORTH.

(*North of Thomas Point Light—Chart No. 3.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station.
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 53 44.24	76 25 52.57	N 42 18 W	S 42 19 E	4167	Cottage.
			N 54 26 W	S 54 27 E	2604	Thomas.
			S 79 25 W	N 79 23 E	5612	Gowan.
2	38 53 55.73	76 26 23.01	N 87 08 E	S 87 08 W	337	Thomas Point Light.
			N 36 45 W	S 36 46 E	3357	Cottage.
			S 73 13 W	N 73 11 E	4924	Gowan.
3	38 54 09.43	76 26 21.37	N 63 57 W	S 63 57 E	1512	Thomas.
			S 68 26 W	N 68 24 E	5116	Gowan.
			S 33 23 E	N 33 23 W	533	Thomas Point Light.
4	38 54 41.78	76 26 54.87	N 45 41 W	S 45 41 E	1628	Cottage.
			S 47 34 W	N 47 34 E	644	Thomas.
			S 37 26 E	N 37 26 W	1932	Thomas Point Light.
5	38 54 50.14	76 26 49.48	N 56 53 W	S 56 53 E	1563	Cottage.
			S 41 12 W	N 41 12 E	937	Thomas.
			S 29 38 E	N 29 37 W	2091	Thomas Point Light.
6	38 55 00.30	76 26 22.75	N 75 45 W	S 75 46 E	2073	Cottage.
			S 51 32 W	N 51 31 E	1690	Thomas.
			S 8 40 E	N 8 40 W	2185	Thomas Point Light.
7	38 54 48.81	76 25 55.02	N 71 53 W	S 71 54 E	2887	Cottage.
			S 72 06 W	N 72 05 E	2159	Thomas.
			S 12 45 W	N 12 45 E	1819	Thomas Point Light.
8	38 54 23.04	76 26 02.85	N 55 09 W	S 55 09 E	3094	Cottage.
			N 83 39 W	S 83 39 E	1859	Thomas.
			S 12 10 W	N 12 10 E	925	Thomas Point Light.

THOMAS POINT SOUTH.

(*Off entrance to South River—Chart No. 3.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 53 11.92	76 27 15.19	N 48 49 E	S 48 49 W	2275	Thomas Point Light.
			N 1 18 E	S 1 16 W	2604	Thomas.
			N 89 02 W	S 89 03 E	3340	Gowan.
2	38 54 15.00	76 27 24.91	S 72 09 E	N 72 09 W	2067	Thomas Point Light.
			N 33 29 E	S 33 29 W	572	Thomas.
			N 81 10 W	S 81 12 E	3606	Selby.
3	38 53 55.73	76 26 23.01	N 87 08 E	S 87 08 W	337	Thomas Point Light.
			N 36 45 W	S 36 46 E	3357	Cottage.
			S 73 13 W	N 73 11 E	4924	Gowan.
4	38 53 44.24	76 25 52.57	N 42 18 W	S 42 19 E	4167	Cottage.
			N 54 26 W	S 54 27 E	2604	Thomas.
			S 79 25 W	N 79 23 E	5612	Gowan.
5	38 53 17.66	76 26 06.79	N 4 02 W	S 4 02 E	1304	Thomas Point Light.
			N 35 59 W	S 35 59 E	2975	Thomas.
			S 88 30 W	N 88 28 E	5143	Gowan.
6	38 53 31.79	76 26 16.39	N 11 06 E	S 11 06 W	840	Thomas Point Light.
			N 37 37 W	S 37 38 E	2442	Thomas.
			S 82 52 W	N 82 50 E	4928	Gowan.
7	38 53 30.53	76 27 01.21	N 57 10 E	S 57 10 W	1599	Thomas Point Light.
			N 8 54 W	S 8 54 E	2000	Thomas.
			S 81 14 W	N 81 13 E	3745	Gowan.

OLD WOMAN.

(*Chesapeake Bay—Entrance to South River—Chart No. 3.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 53 11.92	76 27 15.19	N 48 49 E	S 48 49 W	2275	Thomas Point Light.
			N 1 18 E	S 1 18 W	2604	Thomas.
			N 89 02 W	S 89 03 E	3340	Gowan.
2	38 53 20.61	76 28 06.36	N 68 35 E	S 68 36 W	3287	Thomas Point Light.
			N 31 21 E	S 31 21 W	2706	Thomas.
			S 83 14 W	N 83 13 E	2006	Gowan.
3	38 54 11.00	76 28 25.29	S 82 01 E	N 82 03 W	3594	Thomas Point Light.
			N 22 41 E	S 22 41 W	1138	Arundel.
			N 70 44 W	S 70 45 E	2089	Selby.
4	38 54 15.00	76 27 24.91	S 72 09 E	N 72 09 W	2067	Thomas Point Light.
			N 33 29 E	S 33 29 W	572	Thomas.
			N 81 10 W	S 81 12 E	3606	Selby.

MARSHY POINT.

(*Mouth of South River—Chart No. 3.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station.
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 53 20.61	76 28 06.36	N 68 35 E	S 68 36 W	3287	Thomas Point Light.
			N 31 21 E	S 31 21 W	2706	Thomas.
			S 83 14 W	N 83 13 E	2006	Gowan.
2	38 53 49.82	76 29 24.70	N 87 36 E	S 87 38 W	5129	Thomas Point Light.
			N 48 38 E	S 48 39 W	2671	Arundel.
			N 16 08 W	S 16 08 E	1461	Selby.
3	38 54 15.82	76 29 31.20	S 82 53 E	N 82 55 W	5337	Thomas Point Light.
			N 67 48 E	S 67 49 W	2349	Arundel.
			N 24 02 W	S 24 02 E	576	Selby.
4	38 54 29.17	76 28 38.13	N 87 20 W	S 87 20 E	1635	Selby.
			S 24 22 W	N 24 21 E	2797	Gowan.
			N 60 36 E	S 60 37 W	892	Arundel.
5	38 54 35.04	76 28 19.55	N 50 11 E	S 50 11 W	375	Arundel.
			S 86 43 W	N 86 42 E	2126	Selby.
			S 30 50 W	N 30 50 E	3199	Gowan.
6	38 54 11.00	76 28 25.29	S 82 01 E	N 82 03 W	3594	Thomas Point Light.
			N 22 41 E	S 22 41 W	1138	Arundel.
			N 70 44 W	S 70 45 E	2089	Selby.

TURKEY POINT.

(*Lower South River—Chart No. 3.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 54 28.45	76 30 08.02	N 82 13 E	S 82 13 W	743	Selby.
			N 4 19 E	S 4 20 W	1974	Hill.
			N 23 53 W	S 23 54 E	3203	Switch.
2	38 54 33.04	76 30 11.84	S 86 17 E	N 86 17 W	838	Selby.
			N 7 51 E	S 7 51 W	1827	Hill.
			N 23 29 W	S 23 29 E	1438	Mayo.
3	38 54 40.91	76 29 49.08	N 89 05 E	S 89 04 W	2648	Arundel.
			N 12 46 W	S 12 46 E	1584	Hill.
			N 48 04 W	S 48 04 E	1577	Mayo.
4	38 54 41.46	76 29 25.41	N 60 03 W	S 60 04 E	2073	Mayo.
			S 48 42 W	N 48 42 E	514	Selby.
			N 89 20 E	S 89 21 W	2023	Arundel.
5	38 54 34.11	76 29 21.18	N 31 27 W	S 31 27 E	2080	Hill.
			S 79 44 W	N 79 44 E	507	Selby.
			S 0 24 W	N 0 24 E	2715	Gowan.
6	38 54 30.04	76 29 32.30	N 22 31 W	S 22 31 E	2069	Hill.
			N 77 10 W	S 77 10 E	211	Selby.
			S 6 04 E	N 6 04 W	2592	Gowan.
7	38 54 36.91	76 29 36.78	N 51 33 W	S 51 33 E	1912	Mayo.
			S 25 24 W	N 25 24 E	205	Selby.
			N 85 39 E	S 85 40 W	2329	Arundel.

RULER FLATS.

(*Lower South River—Chart No. 3.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station.
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 54 29.17	76 28 38.13	N 87 20 W	S 87 20 E	1635	Selby.
			S 24 22 W	N 24 21 E	2797	Gowan.
			N 60 36 E	S 60 37 W	892	Arundel.
2	38 54 39.77	76 29 04.97	N 43 41 W	S 43 42 E	2189	Hill.
			S 73 06 W	N 73 06 E	968	Selby.
			S 8 44 W	N 8 44 E	2940	Gowan.
3	38 54 56.37	76 28 44.25	N 63 34 W	S 63 35 E	2299	Hill.
			S 60 15 W	N 60 15 E	1695	Selby.
			S 15 59 W	N 15 58 E	3605	Gowan.
4	38 54 35.04	76 28 19.55	N 50 11 E	S 50 11 W	375	Arundel.
			S 86 43 W	N 86 42 E	2126	Selby.
			S 30 50 W	N 30 50 E	3199	Gowan.

SWAN REEF.

(*Lower South River—Chart No. 3.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 54 39.77	76 29 04.97	N 43 41 W	S 43 42 E	2189	Hill.
			S 73 06 W	N 73 06 E	968	Selby.
			S 8 44 W	N 8 44 E	2940	Gowan.
2	38 54 55.47	76 29 45.06	N 23 21 W	S 23 21 E	1148	Hill.
			N 66 15 W	S 66 15 E	1398	Mayo.
			S 9 08 E	N 9 08 W	821	Selby.
3	38 55 20.53	76 29 21.14	N 79 07 W	S 79 08 E	1106	Hill.
			S 16 48 W	N 16 48 E	1730	Selby.
			S 0 16 W	N 0 16 E	4281	Gowan.
4	38 55 17.03	76 29 06.64	N 77 27 W	S 77 28 E	1504	Hill.
			S 29 50 W	N 29 50 E	1773	Selby.
			S 5 31 W	N 5 31 E	4181	Gowan.
5	38 54 56.37	76 28 44.25	N 63 34 W	S 63 35 E	2299	Hill.
			S 60 15 W	N 60 15 E	1695	Selby.
			S 15 59 W	N 15 58 E	3605	Gowan.

OUTER ROUND POINT.

(*Lower South River—Chart No. 3.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station.
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 54 39.32	76 30 07.50	S 69 46 E	N 69 45 W	769	Selby.
			N 4 51 E	S 4 51 W	1604	Hill.
			N 31 50 W	S 31 51 E	1304	Mayo.
2	38 55 02.57	76 30 27.19	S 49 45 E	N 49 45 W	1625	Selby.
			N 38 46 E	S 38 46 W	1044	Hill.
			N 27 34 W	S 27 34 E	365	Mayo.
3	38 55 05.83	76 30 21.40	S 43 15 E	N 43 14 W	1588	Selby.
			N 35 30 E	S 35 30 W	866	Hill.
			N 56 25 W	S 56 25 E	386	Mayo.
4	38 54 50.26	76 29 53.36	S 84 21 E	N 84 20 W	2773	Arundel.
			N 10 57 W	S 10 57 E	1252	Hill.
			N 55 09 W	S 55 10 E	1293	Mayo.

INNER ROUND POINT.

(*Lower South River—Chart No. 3.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 55 10.96	76 30 47.42	N 65 53 E	S 65 53 W	1300	Hill.
			N 9 51 W	S 9 51 E	1518	Switch.
			N 29 29 W	S 29 29 E	3759	Waggaman.
2	38 55 18.09	76 30 48.10	N 76 25 E	S 76 26 W	1239	Hill.
			N 10 54 W	S 10 54 E	1277	Switch.
			N 46 14 W	S 46 15 E	1813	Cedar.
3	38 55 15.56	76 30 27.68	N 30 11 W	S 30 11 E	1550	Switch.
			S 53 40 W	N 53 40 E	194	Mayo.
			S 40 02 E	N 40 02 W	1944	Selby.

HILL POINT EAST.

(*Lower South River—Chart No. 3.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 55 20.97	76 29 52.13	N 54 17 W	S 54 18 E	332	Hill.
			S 10 44 E	N 10 44 W	1701	Selby.
			S 64 22 E	N 64 21 W	3025	Arundel.
2	38 55 25.06	76 29 54.63	S 67 02 W	N 67 02 E	1115	Mayo.
			S 11 57 E	N 11 57 W	1848	Selby.
			S 62 37 E	N 62 38 W	3145	Arundel.
3	38 55 30.57	76 29 29.42	S 81 28 W	N 81 28 E	878	Hill.
			S 69 50 W	N 69 50 E	1801	Mayo.
			S 8 02 W	N 8 02 E	2014	Selby.
4	38 55 25.50	76 29 28.36	N 87 22 W	S 87 23 E	897	Hill.
			S 75 21 W	N 75 20 E	1777	Mayo.
			S 9 38 W	N 9 38 E	1849	Selby.

HILL POINT.

(*Lower South River—Chart No. 3.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station.
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 55 04.97	76 30 00.19	N 4 29 W	S 4 29 E	736	Hill.
			N 74 36 W	S 74 36 E	913	Mayo.
			S 25 04 E	N 25 04 W	1249	Selby.
2	38 55 22.80	76 30 18.57	S 30 20 E	N 30 19 W	2007	Selby.
			N 73 10 E	S 73 10 W	456	Hill.
			N 42 56 W	S 42 56 E	1497	Switch.
3	38 55 39.26	76 30 07.76	N 77 10 W	S 77 11 E	2432	Cedar.
			S 36 41 W	N 36 41 E	1140	Mayo.
			S 18 34 E	N 18 34 W	446	Hill.

ROCK POINT.

(*Lower South River—Chart No. 3.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 55 20.49	76 30 47.71	N 80 01 E	S 80 02 W	1213	Hill.
			N 12 06 W	S 12 07 E	1201	Switch.
			N 48 22 W	S 48 22 E	1765	Cedar.
2	38 55 28.28	76 30 56.01	S 87 52 E	N 87 52 W	1414	Hill.
			N 2 05 W	S 2 05 E	912	Switch.
			N 50 24 W	S 50 24 E	1427	Cedar.
3	38 55 29.48	76 30 40.51	S 17 21 E	N 17 21 W	612	Mayo.
			S 84 42 E	N 84 42 W	1009	Hill.
			N 26 52 W	S 26 52 E	977	Switch.

FOX POINT.

(*Lower South River—Chart No. 3.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 55 38.68	76 30 24.43	N 57 04 W	S 57 04 E	1031	Switch.
			S 15 13 W	N 15 13 E	926	Mayo.
			S 55 24 E	N 55 23 W	708	Hill.
2	38 55 42.79	76 30 42.66	N 42 22 W	S 42 22 E	571	Switch.
			S 13 01 E	N 13 01 W	1060	Mayo.
			S 62 57 E	N 62 57 W	1192	Hill.
3	38 55 48.04	76 30 40.60	N 60 51 W	S 60 52 E	503	Switch.
			S 8 40 E	N 8 40 W	1224	Mayo.
			S 54 21 E	N 54 21 W	1239	Hill.

PURDY FLATS.

(*Middle South River—Chart No. 3.*)

Corner of bar	Latitude	Longitude	True bearing: Forward	True bearing: Back	Distance	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 55 32.97	76 30 58.82	S 43 26 E	N 43 26 W	967	Mayo.
			N 3 06 E	S 3 06 W	755	Switch.
			N 53 47 W	S 53 47 E	1273	Cedar.
2	38 55 40.32	76 31 31.70	S 78 59 E	N 78 58 W	2397	Hill.
			N 60 53 E	S 60 53 W	1038	Switch.
			N 16 40 W	S 16 41 E	2382	Waggaman.
3	38 55 47.20	76 31 09.44	S 38 38 E	N 38 37 W	1512	Mayo.
			N 49 34 E	S 49 34 W	421	Switch.
			N 69 59 W	S 69 59 E	795	Cedar.

THUNDER AND LIGHTNING.

(*Middle South River—Chart No. 3.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 55 57.18	76 31 08.83	N 36 54 W	S 36 53 E	2142	Waggaman.
			S 85 11 W	N 85 10 E	766	Cedar.
			S 31 26 E	N 31 26 W	1779	Mayo.
2	38 56 30.58	76 31 20.96	S 86 39 W	N 86 39 E	1480	Almshouse.
			S 20 26 W	N 20 26 E	1271	Cedar.
			S 27 41 E	N 27 40 W	1344	Switch.
3	38 56 18.78	76 31 04.72	N 80 43 W	S 80 43 E	1930	Almshouse.
			S 47 42 W	N 47 42 E	1179	Cedar.
			S 13 55 E	N 13 55 W	816	Switch.
4	38 55 58.24	76 31 02.95	N 40 38 W	S 40 38 E	2212	Waggaman.
			S 83 46 W	N 83 46 E	923	Cedar.
			S 26 27 E	N 26 27 W	1736	Mayo.

BREWER.

(*Middle South River—Chart No. 3.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 55 57.59	76 31 56.18	S 87 09 E	N 87 08 W	1554	Switch.
			N 1 18 W	S 1 18 E	1699	Waggaman.
			N 34 43 W	S 34 43 E	1288	Almshouse L. R.
2	38 55 59.02	76 32 01.60	S 85 46 E	N 85 45 W	1699	Switch.
			N 3 36 E	S 3 36 W	1655	Waggaman.
			N 30 20 W	S 30 20 E	1171	Almshouse L. R.
3	38 56 10.23	76 31 30.15	N 64 05 W	S 64 06 E	1374	Almshouse.
			S 21 46 W	N 21 46 E	544	Cedar.
			S 59 50 E	N 59 49 W	1002	Switch.
4	38 56 00.93	76 31 19.50	N 58 55 W	S 58 56 E	1769	Almshouse.
			S 68 24 W	N 68 24 E	518	Cedar.
			S 72 02 E	N 72 02 W	616	Switch.

ALMSHOUSE.

(*Upper South River—Chart No. 3.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 56 07.31	76 32 02.38	S 66 35 E	N 66 35 W	3445	Hill.
			S 76 43 E	N 76 42 W	1762	Switch.
			N 5 11 E	S 5 11 W	1377	Waggaman.
2	38 56 15.42	76 32 03.30	S 44 40 E	N 44 40 W	956	Cedar.
			N 7 43 E	S 7 43 W	1108	Waggaman.
			N 35 07 W	S 35 07 E	1985	Ginger.
3	38 56 16.64	76 31 47.30	N 63 54 W	S 63 54 E	872	Almshouse.
			S 19 09 E	N 19 09 W	763	Cedar.
			S 61 22 E	N 61 21 W	1502	Switch.
4	38 56 09.78	76 31 44.88	N 54 01 W	S 54 01 E	1047	Almshouse.
			S 20 52 E	N 20 52 W	524	Cedar.
			S 68 44 E	N 68 43 W	1345	Switch.

DUVALL.

(*Upper South River—Chart No. 3.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 56 21.44	76 31 42.87	N 23 30 W	S 23 30 E	975	Waggaman.
			N 76 11 W	S 76 11 E	930	Almshouse.
			S 8 36 E	N 8 36 W	892	Cedar.
2	38 56 40.84	76 31 47.23	N 48 44 W	S 48 44 E	365	Waggaman.
			S 61 10 W	N 61 10 E	897	Almshouse.
			S 9 11 E	N 9 11 W	1556	Cedar.
3	38 56 43.58	76 31 41.43	N 65 31 W	S 65 31 E	358	Waggaman Windmill.
			S 60 46 W	N 60 46 E	1075	Almshouse.
			S 3 22 E	N 3 22 W	1632	Cedar.
4	38 56 26.64	76 31 35.78	N 38 40 W	S 38 41 E	922	Waggaman.
			N 87 33 W	S 87 33 E	1088	Almshouse.
			S 2 53 W	N 2 53 E	1059	Cedar.
5	38 56 23.24	76 31 25.42	N 83 14 W	S 83 15 E	1369	Almshouse.
			S 19 04 W	N 19 04 E	998	Cedar.
			S 29 40 E	N 29 39 W	2758	Mayo.

ABERDEEN.

(*Upper South River—Chart No. 3.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 56 37.57	76 31 59.68	N 54 41 W	S 54 41 E	1516	Ginger.
			S 54 50 W	N 54 50 E	559	Almshouse.
			S 22 03 E	N 22 03 W	1539	Cedar.
2	38 56 48.89	76 32 15.18	S 63 41 W	N 63 41 E	588	Brewer.
			S 3 59 W	N 3 59 E	705	Almshouse.
			S 86 12 E	N 86 12 W	463	Waggaman.
3	38 57 06.13	76 32 01.08	S 85 53 W	N 85 53 E	1203	Ginger.
			S 46 46 W	N 46 45 E	1229	Brewer.
			S 18 07 W	N 18 07 E	1363	Almshouse.

BEARD POINT.

(*Upper South River—Chart No. 3.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 56 57.25	76 32 19.42	N 73 27 W	S 73 27 E	748	Ginger.
			S 37 14 W	N 37 14 E	681	Brewer.
			S 61 24 E	N 61 24 W	653	Waggaman.
2	38 57 01.39	76 32 33.99	N 77 34 W	S 77 35 E	341	Ginger.
			S 2 23 W	N 2 23 E	682	Brewer.
			S 64 42 E	N 64 42 W	1059	Waggaman.
3	38 57 05.07	76 32 32.31	S 82 23 W	N 82 22 E	382	Ginger.
			S 5 09 W	N 5 09 E	809	Brewer.
			S 57 44 E	N 57 44 W	1077	Waggaman.
4	38 57 03.80	76 32 22.19	S 89 19 W	N 89 18 E	644	Ginger.
			S 23 58 W	N 23 58 E	836	Brewer.
			S 50 28 E	N 50 28 W	838	Waggaman.

ROUGH POINT.

(*Upper South River—Chart No. 3.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 56 47.29	76 33 10.30	N 89 18 E	S 89 18 W	1914	Waggaman.
			N 48 35 E	S 48 35 W	830	Ginger.
			N 0 14 E	S 0 14 W	751	Ximo.
2	38 56 52.59	76 33 12.34	S 85 29 E	N 85 29 W	1973	Waggaman.
			N 61 18 E	S 61 18 W	771	Ginger.
			N 5 41 E	S 5 41 W	575	Ximo.
3	38 56 54.98	76 32 49.81	S 39 49 E	N 39 49 W	606	Brewer.
			N 15 49 E	S 15 49 W	302	Ginger.
			N 47 29 W	S 47 29 E	727	Ximo.
4	38 56 48.32	76 32 49.14	S 56 57 E	N 56 57 W	442	Brewer.
			N 7 14 E	S 7 14 W	518	Ginger.
			N 37 43 W	S 37 44 E	906	Ximo.

SAUNDERS.

(*Chesapeake Bay off entrance to South River—Chart No. 3.*)

Corner of bar	Latitude	Longitude	True bearing: Forward	True bearing: Back	Distance	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 52 30.94	76 28 47.83	N 31 58 W	S 31 58 E	1696	Gowan.
			S 76 16 W	N 76 15 E	2925	Dutchman.
			S 33 27 W	N 33 26 E	3156	Curtis.
2	38 52 50.36	76 29 22.01	N 0 13 E	S 00 13 W	785	Gowan.
			S 55 12 W	N 55 11 E	2362	Dutchman.
			S 14 18 W	N 14 18 E	3392	Curtis.
3	38 53 12.32	76 29 02.90	N 71 59 E	S 72 01 W	4785	Thomas Point Light.
			N 25 16 E	S 25 17 W	3350	Arundel.
			N 85 09 W	S 85 09 E	503	Gowan.
4	38 53 49.82	76 29 24.70	N 87 36 E	S 87 38 W	5129	Thomas Point Light.
			N 48 38 E	S 48 39 W	2671	Arundel.
			N 16 08 W	S 16 08 E	1461	Selby.
5	38 53 20.61	76 28 06.36	N 68 35 E	S 68 36 W	3287	Thomas Point Light.
			N 31 21 E	S 31 21 W	2706	Thomas.
			S 83 14 W	N 83 13 E	2006	Gowan.

LULU.

(*Chesapeake Bay, between South and West rivers—(Chart No. 3.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 51 15.58	76 26 30.52	S 62 03 E	N 62 01 W	5359	Bloody Point Light.
			N 5 38 E	S 5 38 W	5444	Thomas Point Light.
			S 64 56 W	N 64 54 E	5075	Horseshoe.
2	38 52 30.94	76 28 47.83	N 31 58 W	S 31 58 E	1696	Gowan.
			S 76 16 W	N 76 15 E	2925	Dutchman.
			S 33 27 W	N 33 26 E	3156	Curtis.
3	38 53 20.61	76 28 06.36	N 68 35 E	S 68 36 W	3287	Thomas Point Light.
			N 31 21 E	S 31 21 W	2706	Thomas.
			S 83 14 W	N 83 13 E	2006	Gowan.
4	38 53 11.92	76 27 15.19	N 48 49 E	S 48 49 W	2275	Thomas Point Light.
			N 1 18 E	S 1 18 W	2604	Thomas.
			N 89 02 W	S 89 03 E	3340	Gowan.
5	38 53 01.40	76 26 45.98	N 26 59 E	S 27 00 W	2075	Thomas Point Light.
			N 13 31 W	S 13 31 E	3042	Thomas.
			N 84 18 W	S 84 19 E	4131	Gowan.

DUTCHMAN.

(*Chesapeake Bay off entrance to West River—Chart No. 3.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 51 52.42	76 29 11.14	N 5 55 W	S 5 55 E	2753	Gowan.
			N 74 48 W	S 74 49 E	2307	Dutchman.
			S 40 13 W	N 40 12 E	1743	Curtis.
2	38 51 54.62	76 30 41.05	S 72 00 W	N 72 00 E	831	Ches.
			S 41 30 E	N 41 30 W	1880	Curtis.
			N 15 11 E	S 15 11 W	550	Dutchman.
3	38 52 50.36	76 29 22.01	N 0 13 E	S 0 13 W	785	Gowan.
			S 55 12 W	N 55 11 E	2362	Dutchman.
			S 14 18 W	N 14 18 E	3392	Curtis.
4	38 52 30.94	76 28 47.83	N 31 58 W	S 31 58 E	1696	Gowan.
			S 76 16 W	N 76 15 E	2925	Dutchman.
			S 33 27 W	N 33 26 E	3156	Curtis.

THREE SISTERS.

(*Chesapeake Bay off West River—Chart No. 3.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 49 35.36	76 29 11.96	N 28 33 E	S 28 35 W	10015	Thomas Point Light.
			N 15 25 W	S 15 25 E	1276	Horseshoe.
			S 38 04 W	N 38 04 E	1681	Franklin.
2	38 51 38.65	76 29 11.74	N 4 47 W	S 4 47 E	3213	Gowan.
			N 64 11 W	S 64 11 E	2455	Dutchman.
			S 51 55 W	N 51 54 E	1410	Curtis.
3	38 51 52.42	76 29 11.14	N 5 55 W	S 5 55 E	2753	Gowan.
			N 74 48 W	S 74 49 E	2307	Dutchman.
			S 40 13 W	N 40 12 E	1743	Curtis.
4	38 52 30.94	76 28 47.83	N 31 58 W	S 31 58 E	1696	Gowan.
			S 76 16 W	N 76 15 E	2925	Dutchman.
			S 33 27 W	N 33 26 E	3156	Curtis.
5	38 51 15.58	76 26 30.52	S 62 03 E	N 62 01 W	5359	Bloody Point Light.
			N 5 38 E	S 5 38 W	5444	Thomas Point Light.
			S 64 56 W	N 64 54 E	5075	Horseshoe.
6	38 49 42.70	76 27 33.13	N 14 20 E	S 14 21 W	8824	Thomas Point Light.
			N 71 32 W	S 71 34 E	3106	Horseshoe.
			S 66 41 W	N 66 40 E	3968	Franklin.

CURTIS.

(Chesapeake Bay off entrance to West River—Chart No. 3.)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 51 18.20	76 29 35.30	N 5 11 E	S 5 11 W	3907	Gowan.
			N 42 06 W	S 42 06 E	2371	Dutchman.
			N 68 57 W	S 68 58 E	2261	Ches.
2	38 51 23.17	76 30 07.54	N 17 54 E	S 17 54 W	3914	Gowan.
			N 24 55 W	S 24 55 E	1755	Dutchman.
			N 64 22 W	S 64 22 E	1857	Ches.
3	38 51 42.84	76 29 56.82	N 16 44 E	S 16 44 W	3195	Gowan.
			N 47 45 W	S 47 45 E	1380	Dutchman.
			S 4 30 E	N 4 30 W	1014	Curtis.
4	38 51 38.65	76 29 11.74	N 4 47 W	S 4 47 E	3213	Gowan.
			N 64 11 W	S 64 11 E	2455	Dutchman.
			S 51 55 W	N 51 54 E	1410	Curtis.

COLLINS FLATS.

(West River—Chart No. 3.)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 51 11.28	76 30 30.98	N 86 52 E	S 86 53 W	982	Curtis.
			N 41 15 W	S 41 15 E	1598	Ches.
			S 83 33 W	N 83 32 E	2701	Shell.
2	38 51 11.73	76 30 39.78	N 88 11 E	S 88 11 W	1213	Curtis.
			N 34 43 W	S 34 44 E	1447	Ches.
			S 82 36 W	N 82 35 E	2473	Shell.
3	38 51 23.75	76 30 49.60	S 76 00 E	N 75 59 W	1517	Curtis.
			N 35 47 W	S 35 48 E	965	Ches.
			S 71 44 W	N 71 43 E	2310	Shell.
4	38 51 25.60	76 30 40.24	S 70 41 E	N 70 42 W	1298	Curtis.
			N 4 39 E	S 4 39 W	1515	Dutchman.
			N 48 23 W	S 48 23 E	1086	Ches.

POTATO HILL.

(West River—Chart No. 3.)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 51 26.21	76 31 04.62	S 76 27 E	N 76 26 W	1921	Curtis.
			N 13 34 W	S 13 35 E	722	Ches.
			S 65 49 W	N 65 48 E	1970	Shell.
2	38 51 35.87	76 31 03.32	S 67 05 E	N 67 04 W	1990	Curtis.
			N 28 28 W	S 28 28 E	427	Ches.
			S 58 16 W	N 58 15 E	2153	Shell.
3	38 51 32.76	76 30 59.63	S 68 53 E	N 68 52 W	1861	Curtis.
			N 32 04 W	S 32 04 E	566	Ches.
			S 61 57 W	N 61 57 E	2185	Shell.

CEDAR POINT.

(*West River—Chart No. 3.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station.
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 51 08.18	76 31 39.88	S 77 03 W	N 77 03 E	890	Shell.
			S 30 47 W	N 30 46 E	260	Cove.
			N 86 46 E	S 86 47 W	2802	Curtis.
2	38 51 22.62	76 31 23.40	S 82 04 E	N 82 03 W	2385	Curtis.
			N 21 37 W	S 21 37 E	885	Ches.
			S 62 12 W	N 62 12 E	1472	Shell.
3	38 51 21.18	76 31 11.42	S 82 12 E	N 82 11 W	2066	Curtis.
			N 0 40 E	S 0 40 W	871	Ches.
			S 68 29 W	N 68 28 E	1739	Shell.
4	38 51 10.12	76 31 18.50	N 87 38 E	S 87 39 W	2235	Curtis.
			N 8 59 E	S 8 59 W	1259	Ches.
			S 79 31 W	N 79 31 E	1456	Shell.

BARREN NECK.

(*West River—Chart No. 3.*)

	° ′ ″	° ′ ″	° ″	° ′	*Yards.*	
1	38 51 02.80	76 32 06.43	S 83 53 W	N 83 53 E	168	Shell.
			S 18 08 W	N 18 08 E	865	Counallor.
			S 85 43 E	N 85 43 W	569	Cove.
2	38 51 33.52	76 32 10.19	S 3 41 W	N 3 41 E	1056	Shell.
			S 31 42 E	N 31 41 W	1267	Cove.
			N 73 45 E	S 73 46 W	1624	Ches.
3	38 51 29.88	76 31 58.24	S 22 21 W	N 22 21 E	1007	Shell.
			S 20 09 E	N 20 09 W	1018	Cove.
			N 65 10 E	S 65 10 W	1371	Ches.
4	38 51 12.92	76 31 54.40	S 53 26 W	N 53 26 E	603	Shell.
			S 33 00 E	N 33 00 W	458	Cove.
			N 44 51 E	S 44 51 W	1621	Ches.

TUCKER.

(*West River—Chart No 3.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station.
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 50 47.58	76 31 55.85	N 31 26 E	S 31 26 W	551	Cove.
			N 42 00 W	S 42 00 E	666	Shell.
			S 60 39 W	N 60 39 E	629	Counallor.
2	38 50 48.71	76 32 05.10	N 50 52 E	S 50 52 W	686	Cove.
			N 23 47 W	S 23 47 E	501	Shell.
			S 41 17 W	N 41 17 E	461	Counallor.
3	38 50 53.60	76 32 03.13	N 60 50 E	S 60 50 W	549	Cove.
			N 40 59 W	S 40 59 E	387	Shell.
			S 34 51 W	N 34 51 E	623	Counallor.
4	38 50 54.70	76 31 54.07	N 46 16 E	S 46 16 W	334	Cove.
			N 62 37 W	S 62 37 E	556	Shell.
			S 47 20 W	N 47 20 E	809	Counallor.

CHESTON POINT.

(*Rhode River—Chart No. 3.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 51 40.62	76 31 05.16	N 37 52 E	S 37 52 W	1271	Dutchman.
			N 35 47 W	N 35 47 E	265	Ches.
			S 38 31 W	N 38 31 E	1684	Cove.
2	38 52 18.00	76 31 06.88	N 21 31 E	S 21 31 W	645	Delta.
			N 77 20 W	S 77 20 E	60	Rhode.
			S 5 59 W	N 5 59 E	1051	Ches.
3	38 52 13.74	76 31 00.99	S 16 23 W	N 16 22 E	939	Ches.
			S 74 48 E	N 74 47 W	401	Cato.
			N 6 15 E	S 6 15 W	748	Delta.
4	38 51 46.58	76 30 57.55	N 35 50 E	S 35 50 W	990	Dutchman.
			N 87 43 W	S 87 43 E	355	Ches.
			S 39 27 W	N 39 26 E	1967	Cove.

DUTCHMAN HOLLOW.

(*Rhode River—Chart No. 3.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 52 17.54	76 30 48.48	N 22 25 W	S 22 26 E	666	Delta.
			N 86 59 W	S 86 59 E	544	Rhode.
			S 13 46 E	N 13 46 W	241	Cato.
2	38 52 21.98	76 30 54.43	N 11 06 W	S 11 06 E	475	Delta.
			S 72 37 W	N 72 37 E	405	Rhode.
			S 29 12 E	N 29 12 W	439	Cato.
3	38 52 28.12	76 30 50.55	N 47 39 W	S 47 40 E	1159	Turf.
			S 56 08 W	N 56 08 E	588	Rhode.
			S 10 42 E	N 10 42 W	607	Cato.

BRICE FENCE.

(*Rhode River—Chart No. 3.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 52 19.38	76 31 11.05	S 57 00 E	N 57 00 W	61	Rhode.
			N 32 03 E	S 32 03 W	653	Delta.
			N 16 29 W	S 16 29 E	1122	Turf.
2	38 52 23.90	76 31 24.86	S 65 54 E	N 65 54 W	455	Rhode.
			N 60 33 E	S 60 33 W	816	Delta.
			N 2 51 E	S 2 51 W	924	Turf.
3	38 52 24.29	76 31 14.78	S 36 58 E	N 36 58 W	249	Rhode.
			N 48 50 E	S 48 50 W	589	Delta.
			N 13 35 W	S 13 35 E	936	Turf.

STONY HOLLOW.

(*Rhode River—Chart No. 3.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 52 32.42	76 31 33.04	S 53 09 E	N 53 08 W	788	Rhode.
			S 79 36 W	N 79 36 E	528	Cupola.
			N 22 21 E	S 22 21 W	688	Turf.
2	38 52 42.50	76 31 31.75	S 36 18 E	N 36 18 W	1007	Rhode.
			S 52 03 W	N 52 03 E	702	Cupola.
			N 37 34 E	S 37 34 W	373	Turf.
3	38 52 52.04	76 31 19.40	S 13 27 E	N 13 27 W	1167	Rhode.
			N 35 29 W	S 35 29 E	1052	Calf.
			S 75 10 W	N 75 10 E	102	Turf.
4	38 52 48.00	76 31 17.48	S 12 29 E	N 12 28 W	1023	Rhode.
			N 53 26 W	S 53 26 E	185	Turf.
			N 47 04 E	S 47 04 W	407	Etna.

CHERRY.

(*Rhode River—Chart No. 3.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 52 38.61	76 31 04.35	S 60 52 E	N 60 52 W	195	Delta.
			N 4 34 W	S 4 34 E	596	Etna.
			N 49 13 W	S 49 13 E	654	Turf.
2	38 52 43.34	76 31 04.58	N 5 26 W	S 5 26 E	437	Etna.
			N 61 19 W	S 61 19 E	557	Turf.
			S 34 42 E	N 34 42 W	309	Delta.
3	38 52 45.74	76 30 56.00	N 37 04 W	S 37 05 E	444	Etna.
			N 75 23 W	S 75 23 E	739	Turf.
			S 70 07 W	N 70 06 E	1591	Cupola.

JACKASS.

(*Rhode River—Chart No. 3.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station.
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 52 53.40	76 31 33.24	S 32 46 W	N 32 46 E	951	Cupola.
			S 74 56 E	N 74 56 W	277	Turf.
			N 16 54 W	S 16 54 E	849	Calf.
2	38 52 57.82	76 31 32.74	S 48 57 E	N 48 56 W	337	Turf.
			S 85 39 E	N 85 39 W	703	Etna.
			N 21 24 W	S 21 24 E	712	Calf.
3	38 53 02.82	76 31 23.90	N 44 55 W	S 44 55 E	698	Calf.
			S 3 01 E	N 3 01 W	390	Turf.
			S 64 38 E	N 64 37 W	518	Etna.
4	38 52 59.03	76 31 20.53	N 43 04 W	S 43 05 E	852	Calf.
			S 14 37 W	N 14 37 E	270	Turf.
			S 76 04 E	N 76 03 W	390	Etna.

BOLSTON BANK.

(*Rhode River—Chart No. 3.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 52 48.23	76 31 52.57	S 0 28 W	N 0 28 E	626	Cupola.
			N 82 29 E	S 82 29 W	783	Turf.
			N 14 55 E	S 14 55 W	1021	Calf.
2	38 52 56.81	76 31 49.73	S 4 59 W	N 4 59 E	919	Cupola.
			S 75 05 E	N 75 05 W	726	Turf.
			N 15 05 E	S 15 05 W	722	Calf.
3	38 52 54.68	76 31 43.02	S 16 57 W	N 16 57 E	881	Cupola.
			S 77 38 E	N 77 38 W	537	Turf.
			N 0 49 E	S 0 49 W	769	Calf.

HIGH ISLAND.

(*Rhode River—Chart No. 3.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 53 02.19	76 31 57.23	S 6 08 E	N 6 08 W	1102	Cupola.
			S 67 44 E	N 67 43 W	971	Turf.
			N 36 47 E	S 36 48 W	644	Calf.
2	38 53 10.24	76 31 53.18	S 0 28 E	N 0 28 W	1367	Cupola.
			S 51 05 E	N 51 05 W	1018	Turf.
			N 58 48 E	S 58 48 W	371	Calf.
3	38 53 07.64	76 31 49.00	S 4 26 W	N 4 26 E	1284	Cupola.
			S 51 02 E	N 51 02 W	877	Turf.
			N 26 57 E	S 26 57 W	372	Calf.

FLAT ISLAND.

(*Rhode River—Chart No. 3.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station.
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 53 09.28	76 32 00.82	S 9 03 E	N 9 02 W	1352	Cupola.
			S 58 31 E	N 58 30 W	1162	Turf.
			N 60 04 E	S 60 04 W	554	Calf.
2	38 53 15.03	76 32 08.82	S 15 29 E	N 15 29 W	1587	Cupola.
			S 56 22 E	N 56 22 W	1447	Turf.
			N 83 11 E	S 83 11 W	696	Calf.
3	38 53 24.18	76 32 03.19	S 8 31 E	N 8 30 W	1858	Cupola.
			S 43 35 E	N 43 35 W	1532	Turf.
			S 67 24 E	N 67 24 W	588	Calf.

BUCE.

(*Rhode River—Chart No. 3.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 53 27.22	76 31 54.57	S 1 25 E	N 1 25 W	1940	Cupola.
			S 34 22 E	N 34 22 W	1469	Turf.
			S 43 51 E	N 43 51 W	455	Calf.
2	38 53 30.38	76 32 05.82	S 9 33 E	N 9 33 W	2075	Cupola.
			S 40 29 E	N 40 28 W	1733	Turf.
			S 54 36 E	N 54 35 W	751	Calf.
3	38 53 35.18	76 32 03.90	S 7 34 E	N 7 34 W	2228	Cupola.
			S 35 59 E	N 35 59 W	1830	Turf.
			S 43 15 E	N 43 15 W	819	Calf.

BAY SHORE.

(*Chesapeake Bay between West River and Herring Bay—Chart No. 4.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station.
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 46 21.04	76 31 55.90	N 21 03 E	S 21 03 W	2175	Broad.
			N 86 52 W	S 86 52 E	728	Parker.
			S 55 04 W	N 55 03 E	3819	Fairhaven.
2	38 47 45.64	76 30 33.40	N 25 05 E	S 25 06 W	2624	Franklin.
			N 8 22 W	S 8 22 E	584	Nut.
			S 59 30 W	N 59 29 E	1621	Broad.
3	38 48 51.50	76 28 52.60	N 17 25 W	S 17 25 E	2840	Horseshoe.
			N 84 16 W	S 84 16 E	1555	Franklin.
			S 59 07 W	N 59 06 E	3199	Nut.
4	38 49 35.36	76 29 11.96	N 28 33 E	S 28 35 W	10015	Thomas Point Light.
			N 15 25 W	S 15 25 E	1276	Horseshoe.
			S 38 04 W	N 38 04 E	1681	Franklin.
5	38 49 42.70	76 27 33.13	N 14 20 E	S 14 21 W	8824	Thomas Point Light.
			N 71 32 W	S 71 34 E	3106	Horseshoe.
			S 66 41 W	N 66 40 E	3968	Franklin.
6	38 48 54.54	76 27 58.99	N 40 58 W	S 40 59 E	3452	Horseshoe.
			N 88 59 W	S 89 00 E	2955	Franklin.
			S 67 15 W	N 67 14 E	4510	Nut.
7	38 48 42.60	76 28 31.60	N 25 00 W	S 24 59 E	3321	Horseshoe.
			N 77 45 W	S 77 46 E	2150	Franklin.
			S 67 52 W	N 67 51 E	3562	Nut.
8	38 46 30.66	76 29 45.60	N 23 26 W	S 23 25 E	3386	Nut.
			N 57 18 W	S 57 19 E	3158	Broad.
			S 86 06 W	N 86 04 E	4178	Parker.
9	38 46 21.72	76 30 20.82	N 6 58 W	S 6 59 E	3434	Nut.
			N 40 43 W	S 40 44 E	2649	Broad.
			N 89 41 W	S 89 43 E	3238	Parker.

LONG.

(*Chesapeake Bay off entrance to Herring Bay—Chart No. 4.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station.
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 44 23.03	76 32 15.40	S 34 48 E	N 34 48 W	1740	Holland.
			N 12 10 E	S 12 10 W	6148	Broad.
			N 55 33 W	S 55 34 E	3170	Fairhaven.
2	38 44 22.57	76 32 37.02	S 48 54 E	N 47 53 W	2108	Holland.
			N 5 04 E	S 5 04 W	4051	Parker.
			N 48 29 W	S 48 30 E	2729	Fairhaven.
3	38 46 21.04	76 31 55.90	N 21 03 E	S 21 03 W	2175	Broad.
			N 86 52 W	S 86 52 E	728	Parker.
			S 55 04 W	N 55 03 E	3819	Fairhaven.
4	38 46 21.72	76 30 20.82	N 6 58 W	S 6 59 E	3434	Nut.
			N 40 43 W	S 40 44 E	2649	Broad.
			N 89 41 W	S 89 43 E	3238	Parker.
5	38 45 17.50	76 31 28.94	N 0 58 E	S 0 58 W	4173	Broad.
			N 33 24 W	S 33 25 E	2615	Parker.
			S 89 21 W	N 89 20 E	3842	Fairhaven.
6	38 44 46.50	76 31 39.63	N 3 52 E	S 3 52 W	5231	Broad.
			N 19 43 W	S 19 44 E	3430	Parker.
			N 74 16 W	S 74 18 E	3696	Fairhaven.

FAIRHAVEN.

(*Herring Bay off Fairhaven—Chart No. 4.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 44 33.63	76 32 47.46	S 45 51 E	N 45 50 W	2566	Holland.
			N 9 49 E	S 9 49 W	3716	Parker.
			N 50 55 W	S 50 56 E	2277	Fairhaven.
2	38 44 39.19	76 33 11.47	S 51 25 E	N 51 26 W	3165	Holland.
			N 20 03 E	S 20 03 W	3699	Parker.
			N 42 16 W	S 42 16 E	1686	Fairhaven.
3	38 45 04.65	76 32 56.40	N 18 23 E	S 18 24 W	2757	Parker.
			N 14 04 W	S 14 04 E	2321	Hopkins.
			N 75 44 W	S 75 45 E	1581	Fairhaven.
4	38 45 47.06	76 33 27.00	S 34 50 W	N 34 49 E	1267	Fairhaven.
			S 34 05 E	N 34 04 W	5148	Holland.
			N 54 45 E	S 54 45 W	2054	Parker.
5	38 45 27.79	76 32 27.80	N 3 34 E	S 3 34 W	1839	Parker.
			N 41 54 W	S 41 54 E	1975	Hopkins.
			S 80 19 W	N 80 17 E	2321	Fairhaven.

HOLLAND POINT.

(*Chesapeake Bay, northeast of Holland Point—Chart No. 4.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station.
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 43 30.91	76 29 59.52	N 6 06 W	S 6 06 E	9221	Nut.
			N 33 20 W	S 33 21 E	6914	Parker.
			N 82 47 W	S 82 48 E	2617	Holland.
2	38 43 34.30	76 30 59.24	N 3 46 E	S 3 47 W	9074	Nut.
			N 21 26 W	S 21 27 E	6084	Parker.
			N 53 24 W	S 53 25 E	5762	Fairhaven.
3	38 44 04.64	76 32 28.49	S 58 52 W	N 58 52 E	1564	Holland.
			N 1 38 E	S 1 38 W	4641	Parker.
			N 43 15 W	S 43 16 E	3313	Fairhaven.
4	38 45 33.13	76 30 30.77	N 1 45 W	S 1 45 E	5049	Nut.
			N 60 54 W	S 60 55 E	3404	Parker.
			S 25 02 W	N 25 01 E	4179	Holland.
5	38 45 43.72	76 29 41.78	N 17 09 W	S 17 10 E	4908	Nut.
			N 73 04 W	S 73 06 E	4462	Parker.
			S 36 31 W	N 36 30 E	5151	Holland.
6	38 44 36.67	76 29 21.57	N 15 54 W	S 15 55 E.	7228	Nut.
			N 53 26 W	S 53 28 E	5977	Parker.
			S 62 18 W	N 62 17 E	4064	Holland.

LANDMARKS (U. S. COAST AND GEODETIC SURVEY TRIANGULATION STATIONS).

EXPLANATION OF DESCRIPTION OF LANDMARKS.

The oyster-culture laws of Maryland authorizing the survey of natural oyster bars provide for "an accurate report of said survey, setting forth such a description of landmarks as may be necessary to enable the said Board, or their successors, to find and ascertain the boundary lines of said natural oyster beds, bars, and rocks, as shown by delineation on the maps and charts." The law of the United States authorizing the cooperation of the Department of Commerce and Labor in the survey of natural oyster bars of Maryland provides for the erection of "such structures as may be necessary to mark the points of triangulation, so that the same may be used for such future work of the Coast and Geodetic Survey as the said Bureau may be hereafter required to perform in prosecuting the Government coast survey of the navigable waters of the United States located within the State of Maryland."

Under the provisions of the sections of the laws stated above the markings and descriptions of landmarks must be sufficient for the present and future needs of both the Government and the State. With this end in view considerable effort has been expended in erecting permanent monuments at the triangulation stations and in the proper description of their location.

An effort has been made to arrange the description of stations in a uniform and logical manner. The descriptions start with the assumption that the individual seeking the station has only an indefinite idea of its location. They then gradually proceed from general descriptions of the surroundings of a landmark to the specific details of the character of the center and reference markings. An examination of the descriptions themselves will best indicate the method followed.

The heading of each description is the name by which the landmark is known and designated in all work and records executed by the commission. Where the same name is used for two or more stations, as is the case in several instances in Anne Arundel County, the general locality of the station being described is given in parentheses alongside its name.

In the first paragraph, under the heading of "Locality," is given a description of the general locality of the landmark and the serial number of the published chart of the oyster bars of Anne Arundel County which best shows its location. The second paragraph, under this same heading, furnishes the description of the immediate locality of the landmark and refers to the bearing and distance of the cement monument marking the reference station, as it is the first object that is likely to catch the eye when the immediate vicinity of the desired station is reached.

Under the heading of "Marks" a description is given of the markings of the "observed station" and the "reference station." It will be noted that although the "observed station" is the one "occupied" and "observed on" for horizontal angles, it is not marked as well as the reference station, and in many instances has only a pine stub to indicate its position. This is the case, for the reason that the necessity of intervisibility of triangulation stations usually made it compulsory to locate these stations on edges of banks and ends of points of land, which in Chesapeake Bay and tributaries generally means that they will be washed away in a short period of years. The past experience of the Coast and Geodetic Survey in this region showed the necessity of reference marks, if the reestablishment of a new framework of triangulation was to be avoided in the near future.

The marks designated in the descriptions as "the center point of triangle on standard cement monument" are all exactly alike. They are made out of cement, sand, and gravel and are 2 feet long and 8 inches square at top and bottom. Their tops are all marked with the same brass mold and show a center hole surrounded by a triangle, with the letters "M. S. F. C." arranged around the vertex and the letters "U. S. C. S." underneath the base of the triangle. All of these monuments have been planted in the same manner, with their tops projecting 3 or 4 inches above the surface of the ground. As the above facts in reference to the "standard cement monuments" are a constant element in all the descriptions, their needless repetition is avoided by this one statement.

It is the expectation that the "reference stations," the character of which is explained above, will be used in the near future in the place of the original stations. This has been made possible by the careful measurements of direction and distance of these stations from the "observed station" which are recorded under the heading of "References."[a]

[a] To obtain the geographic positions of any of the "observed stations" or of the "reference stations," application should be made to the Superintendent of the Coast and Geodetic Survey at Washington.

Under the heading of "References" are given the directions and distances of all objects that might be useful in locating the stations when the surface marks can not be found. It is also contemplated that for general purposes of topography or location of boundaries of oyster bars, these references will be sufficient in many cases, to relocate the "observed station" or "reference station" when both of them have been destroyed but the reference objects remain.

The first reference object given in the descriptions is always a triangulation station visible from the station being described. Its direction is taken as being 0° 00′ 00″, and the directions of all other objects are measured from it as an initial point, the angles being taken in a clockwise direction (left to right).

The true bearing[a] of the initial object is always given, in parentheses alongside the name. This furnishes means for the calculation of the bearings of any of the reference objects for the purposes of locating a station by compass bearings, or the relocation of corner buoys of oyster-bar boundaries by the method of horizontal angles described under the heading of "Boundaries of natural oyster bars."

The distances in the last column under "References" are given in three different units, which vary according to their accuracy. The "miles" are statute miles and may be considered only as rough estimates. The "yards" are more accurate, but must be looked on as results generally obtained by pacing or careful estimating. The "meters," however, are accurate to the degree indicated by their decimals and in every case have been measured with a steel tape.

NORTH POINT (OLD TOWER).

Locality.—South of North Point about 150 yards offshore. (See Chart No. 1.)

Marks.—Observed station is center point of lantern on old stone tower formerly used as a light-house.

References.—

	°	′		
"Craighill Channel Light (Front Range)"	S 81	20 E	.....	2½ miles.

CRAIGHILL CHANNEL LIGHT (FRONT RANGE).

Locality.—Offshore about 2½ miles east by south of North Point and about 4 miles north-northeast of Bodkin Point. (See Chart No. 1.)

Marks.—Observed station is center point of black lantern on brown structure known as Craighill Channel Front Range Light-house.

References.—

	°	′		
"North Point (Old Tower)"	N 81	19 W	.....	2½ miles.

ROCK POINT.

Locality.—South side of entrance to Rock Creek on Rock Point. (See Chart No. 1.)

Observed station is near the extreme end of point about 70 yards southeast from a small tower and 12 yards from the sea wall.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Seven Foot Knoll Light" (S 78° 17′ E)	0	00	00	.....	3¾ miles.
Bodkin Point (Old Tower)	25	43	..	.....	3¾ miles.
Tower on east corner	194	00	..	.....	70 yards.
Outer "White Rocks"	211	07	..	.....	¾ mile.
Water tower (opposite shore)	291	27	..	.....	2½ miles.

[a] The mean magnetic declination for Anne Arundel County (in 1907) is 5° 45′ west of north, and it is increasing at the rate of 3′ yearly.

SEVEN FOOT KNOLL LIGHT.

Locality.—Offshore about 1½ miles north-northeast of Bodkin Point and 3¼ miles southeast by south of North Point. (See Chart No. 1.)

Marks.—Observed station is center of lantern on brown screw pile structure known as Seven Foot Knoll Light-house.

References.—

	°	′		
"Bodkin Point (Old Tower)"	S 30	03	W	1½ miles.

BODKIN POINT (OLD TOWER).

Locality.—South side of entrance to Bodkin Creek, on Bodkin Point, about 15 yards east of old stone house. (See Chart No. 1.)

Observed station is on top and at center of old tower formerly used as a light-house.

Marks.—Observed station is center point of a drill hole about 2 inches in diameter and 3 inches deep.

References.—

	°	′		
"Seven Foot Knoll Light"	N 30	04	E	1½ miles.

LOCUST.

Locality.—On shore of bay, midway between Bodkin Point Tower and the mouth of Magothy River. Counting down the bay from Bodkin Tower the station is located on the fifth bluff and near the center of it. (See Chart No. 1.)

Observed station is on the top of a bluff 20 feet high. It is 25 feet back from the edge of the bluff and just outside of a large orchard. Cement monument marking reference station is 6.77 meters west of observed station.

Marks.—Observed station is a nail in a wooden stub set flush with ground. Reference station is the center point of triangle on standard cement monument.

References.—

	°	′	″		
"Seven Foot Knoll Light" (N 17° 49′ E)	0	00	00	.....	4 miles.
Farm-house (through trees)	165	56	..	.....	¼ mile.
REFERENCE STATION	242	22	20	.....	6.77 meters.
Nail in blaze on tree	249	43	..	.....	6.59 meters.
Nail in blaze on tree (6 inches diameter)	333	12	..	.....	15.57 meters.
Bodkin Point (Old Tower)	350	43	..	.....	2¼ miles.

BAY (MAGOTHY RIVER).

Locality.—Magothy River, on north shore of Sillery Bay, about ½ mile west of Long Point and 1½ miles northeast of Dobbins Island. (See Chart No. 1.)

Observed station is on edge of woods, about 2 feet above and 20 feet back from high-water mark. Cement monument marking reference station is 4.55 meters north of observed station.

Marks.—Observed station is a nail in a stub surrounded by a pine box projecting 6 inches above the ground. Reference station is the center point of triangle on standard cement monument.

References.—

	°	′	″		
"Dobbins" (S 29° 01′ W)	0	00	00	.....	1¼ miles.
Right tangent Dobbins Island	9	15	..	.....	1½ miles.
Right tangent small island	19	11	..	.....	1¼ miles.
Nail in blaze on tree (12 inches diameter)	112	15	..	.....	6.98 meters.
REFERENCE STATION	149	19	10	.....	4.55 meters.
Nail in blaze on tree (12 inches diameter)	232	53	..	.....	9.41 meters.
Right tangent Gibson Island	326	53	..	.....	1½ miles.

PHIL.

Locality.—North end of Gibson Island on point on south side of entrance to the cove making out from Sillery Bay. This cove nearly separates the island from the mainland. (See Chart No. 1.)

Observed station is on the northwestern side of a low sand spit at about high-water mark. Cement monument marking reference station is 0.95 meters northeast of observed station.

Marks.—Observed station is a broad pole signal with bottom of pole set in a wooden box projecting 6 inches above the ground. Reference station is the center point of a triangle on standard cement monument.

References.—	°	′	″		
"Bay" (N 57° 20′ W)	0	00	00	.....	½ mile.
Small white shanty	23	18	..	.....	¼ mile.
Brown dwelling	129	28	..	.....	½ mile.
REFERENCE STATION	135	51	00	.....	0.95 meter.
White dwelling (left end)	192	10	..	.....	¾ mile.

HICKORY.

Locality.—Northwest shore of Sillery Bay on Hickory Bar Point, about ¾ mile north by east of Dobbins Island and ¾ mile west by south of entrance to cove separating Gibson Island from mainland. (See Chart No. 1.)

Observed station is 1 foot above and 30 feet back from high-water mark and a short distance from the extreme point. Cement monument marking reference station is 2.38 meters northwest of observed station.

Marks.—Observed station is a nail in a stub set in a box projecting 6 inches above the ground. Reference station is the center point of a triangle on standard cement monument.

References.—	°	′	″		
"Dobbins" (S 7° 51′ W)	0	00	00	.....	¾ mile.
Right tangent Dobbins Island	20	09	..	.....	¾ mile.
REFERENCE STATION	131	24	00	.....	2.38 meters.
Nail in blaze on old tree	135	38	..	.....	7.36 meters.
Left tangent point at entrance to cove	254	29	..	.....	1 mile.
Lone tree near "Purse," triangulation station.	332	33	..	.....	3 miles.

SILLERY.

Locality.—West shore of Sillery on the northwest point of Gibson Island about 1 mile northeast of Dobbins Island. (See Chart No. 1.)

Observed station is on top of a bluff 6 feet high and 15 feet back from the edge. It is about 50 feet south of the break of the bluff where a low marsh commences. A small stump stands about 1 foot distant with blaze facing station. Cement monument marking reference station is 5.99 meters southeast of observed station.

Marks.—Observed station is a nail in a wooden stub set flush with the ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Hickory" (N 70° 41′ W)	0	00	00	.....	½ mile.
Nail in blaze on hickory tree (6 inches diameter)	129	10	..	.....	9.39 meters.
Nail in blaze on locust tree (4 inches diameter)	174	45	..	.....	10.12 meters.
REFERENCE STATION	197	49	50	.....	5.99 meters.
Unpainted building (seen through trees)	208	44	..	.....	¼ mile.
Left tangent Dobbins Island	303	13	..	.....	1 mile.
Chimney on house (opposite shore)	350	47	..	.....	1 mile.

PEACH HILL.

Locality.—Summit of a prominent hill on Gibson Island about ¼ mile back from shore of bay and 1¼ miles north of entrance to Magothy River. (See Chart No. 1.)

Observed station is on the second hill south of the sand beach connecting Gibson Island with the mainland and ¼ mile south of a white dwelling house. Cement monument marking reference station is 10.75 meters southeast of observed station.

Marks.—Observed station is the intersection of two cross lines on the top of a granite monument projecting 4 inches above the ground. Reference station is the center point of a triangle on standard cement monument.

References.—

	°	′	″	
"Welch" (S 41° 14′ W)	0	00	00	¾ mile.
Chimney of house (near Welch)	1	00	..	¾ mile.
Cupola of barn	96	51	..	¼ mile.
Right tangent of dwelling	134	21	..	¼ mile.
Nail in stump (5 inches diameter)	177	21	..	4.13 meters.
REFERENCE STATION	263	48	10	10.75 meters.

WELCH.

Locality.—Southern end of Gibson Island on top of prominent hill about ½ mile north by west of Mountain Point and 1½ miles southeast of Dobbins Island. (See Chart No. 2.)

Observed station is in the side yard of house belonging to James Ellison and is 29.60 meters south of the northeast corner of house.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Revell" (S 69° 56′ W)	0	00	00	1½ miles.
Nail in blaze on stump (15 inches diameter)	71	13	..	23.60 meters.
Northeast corner of porch of house	116	12	..	29.60 meters.
Nail in blaze on tree (6 inches diameter)	170	31	..	30.83 meters.
Left tangent of Sandy Point	256	00	..	3 miles.

BLUFF (MAGOTHY RIVER).

Locality.—West side of Gibson Island and northwest shore of Magothy River, about 1 mile northwest of Mountain Point. It is near the center of the third prominent bluff from Mountain Point. (See Chart No. 2.)

Observed station is on the top of a bluff 20 feet high. It is in a thick woods about 15 feet from the edge of the bluff. Cement monument marking reference station is 5 meters northeast by east of observed station.

Marks.—Observed station is a nail in a wooden stub set flush with ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Revell" (S 49° 48′ W)	0	00	00	1½ miles.
Left tangent Dobbins Island	55	06	..	1 mile.
Chimney of white house on Dobbins Island	61	18	..	1 mile.
Right tangent Dobbins Island	64	30	..	1 mile.
Nail in blaze on tree (15 inches diameter)	131	59	..	7.94 meters.
REFERENCE STATION	189	43	20	5 meters.
Nail in blaze on tree (12 inches diameter)	216	58	..	6.35 meters.
Lone tree (near "Purse" triangulation station)	302	50	..	2 miles.

DOBBINS.

Locality.—North side of Magothy River on extreme east end of Dobbins Island. (See Chart No. 2.)

Observed station is on top of a bluff 25 feet high and about 30 feet back from the edge. Cement monument marking reference station is 3.37 meters west of station.

Marks.—Observed station is a nail in a stub projecting 3 inches above-ground. Reference station is center point of a triangle on standard cement monument.

References.—	°	′	″	
"Bay" (N 29° 01′ E)	0	00	00	1½ miles.
Yellow house	46	31	..	1 mile.
Sandy Point Light	108	22	..	6 miles.
Lone tree near "Purse" triangulation station	123	00	..	2¼ miles.
Chimney of house on island	201	51	..	150 yards.
REFERENCE STATION	220	24	50	3.37 meters.
Tangent to Hickory Bar Point	338	52	..	¾ mile.

IRON.

Locality.—North shore Magothy River on extreme southeast end of Park Point and between entrances to Park and Broad creeks. (See Chart No. 2.)

Observed station is on the top of a bluff about 15 feet high and is 15 feet back from the edge. Cement monument marking reference station is 5.01 meters northwest by west of station.

Marks.—Observed station is a nail in a wooden stub projecting 3 inches above the ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Huddle" (S 18° 13′ W)	0	00	00	1 mile.
Nail in blaze on tree (12 inches diameter)	95	47	..	8.96 meters.
REFERENCE STATION	122	18	20	5.01 meters.
Nail in blaze on tree	128	19	..	10.46 meters.
Nail in blaze on forked tree	190	57	..	4.37 meters.
House on Dobbins Island	258	11	..	¾ mile.
Lone tree near "Purse" triangulation station	298	13	..	3 miles.

HAM.

Locality.—North shore of upper end of Magothy River opposite Ferry Point on first point west of mouth of Blackhole Creek. (See Chart No. 2.)

Observed station is on a low flat sandy point making out from a bluff 15 feet high. It is 3 feet above and 10 feet back from high-water mark. Cement monument marking reference station is 7.34 meters north of observed station.

Marks.—Observed station is a nail in a wooden stub projecting 3 inches above the ground. Reference station is the center point of triangle on standard cement monument.

References.—	°	′	″	
"Ferry" (S 14° 17′ E)	0	00	00	½ mile.
REFERENCE STATION	201	20	00	7.34 meters.
Nail in blaze on tree (12 inches diameter)	260	55	..	7.54 meters.
House on Dobbins Island	283	58	..	2¼ miles.
Old Station	317	03	..	6.04 meters.

BANK.

Locality.—North shore of upper end of Magothy River about ¾ mile northwest from mouth of Blackhole Creek and nearly abreast of Cypress Creek. (See Chart No. 2.)

Observed station is at the base of a bluff about 20 feet high. It is 2 feet above and 2 feet back from high-water mark. Several large brown bowlders are scattered in front of the station. Cement monument marking reference station is 11.86 meters northeast by north of the observed station on the top of bluff. It can not be seen from the observed station.

Marks.—Observed station is a pole signal with the lower end of the pole sunk in a box projecting 1 foot above the ground. Reference station is the center point of a triangle on standard cement monument.

References.—

	°	′		
"Horn"	(S 65	33 W)	.....	½ mile.
REFERENCE STATION	S by W		.....	11.86 meters.

HORN (MAGOTHY RIVER).

Locality.—South shore of upper end of Magothy River about ½ mile southeast from mouth of Cattail Creek and ½ mile north of Cypress Creek. (See Chart No. 2.)

Observed station is on a point about 2 feet above and 10 feet back from high-water mark. Slope of bank begins at station and rises to an elevation of 20 feet and is covered with woods. A pile of stone surrounds station. Cement monument marking reference station is 4.51 meters south by east of station.

Marks.—Observed station is a nail in a wooden stub 3 inches below the surface of the ground. Reference station is the center point of triangle on standard cement monument.

References.—

	°	′	″		
"Huddle" (S 63° 06′ E)	0	00	00	.....	2¼ miles.
White house near mouth of Dividing Creek	38	08		.....	¾ mile.
REFERENCE STATION	42	02	40	.....	4.51 meters.
Nail in blaze on tree (4 inches diameter)	49	13	..	.....	7.82 meters.
Nail in blaze on forked tree	78	22	..	.....	5.21 meters.
Chimney of white house across river	254	59	..	.....	½ mile.

TAIL.

Locality.—South shore of upper end of Magothy River on Stony Point at eastern side of entrance to Dividing Creek. (See Chart No. 2.)

Observed station is on the upper edge of a bluff 15 feet high. Cement monument marking reference station is 6.94 meters south-southeast of station.

Marks.—Observed station is a pole signal with base stuck in a vertical box. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Horn" (N 24° 24′ W)	0	00	00	.....	¾ mile.
White house	17	24	..	.....	1¼ miles.
Nail in blaze on tree (8 inches diameter)	129	18	..	.....	11.22 meters.
REFERENCE STATION	171	13	00	.....	6.94 meters.
Nail in blaze on tree (6 inches diameter)	192	47	..	.....	3.14 meters.
Small hill on point on mouth of Dividing Creek	242	50	..	.....	¼ mile.
Chimney on house on west shore of Dividing Creek	267	08	..	.....	¾ mile.

FERRY.

Locality.—South shore of Magothy River on Ferry Point about ½ mile east of mouth of Dividing Creek. (See Chart No. 2.)

Observed station is 15 feet from and 3 feet above high-water mark. There are five cedar trees in close proximity to the station. Cement monument marking reference station is 5.08 meters southwest by south from observed station.

Marks.—Observed station is a nail in cement in a tile pipe buried 1 foot below the surface. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Huddle" (S 72° 50′ E)	0	00	00	.....	1¼ miles.
Nail in blaze on forked tree (4 inches diameter)	28	34	..	.....	9.74 meters.
Nail in blaze on tree (6 inches diameter)	57	46	..	.....	22.70 meters.

	°	′	″		
REFERENCE STATION	97	05	10	.....	5.08 meters.
Top of white house	114	22	..	.....	½ mile.
Nail in blaze on tree (8 inches diameter)	...	..	..	.....	6.43 meters.
House on Dobbins Island	332	30	..	.....	2¼ miles.
House on hill back of Mountain Point	347	04	..	.....	3½ miles.

HUDDLE.

Locality.—South shore of Magothy River on Huddles Point about ¾ mile northeast of inner entrance to Forked Creek. (See Chart No. 2.)

Observed station is about 10 feet from the edge of a sandy bank 8 feet high. Cement monument marking reference station is 4.99 meters south-southwest from observed station.

Marks.—Observed station is a nail set in cement in a tile pipe projecting 1 inch above the sand. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Iron" (N 19° 13′ E)	0	00	00	.....	1 mile.
House on Dobbins Island	37	52	..	.....	1¼ miles.
House on hill back of Mountain Point	69	48	..	.....	2½ miles.
Nail in blaze on tree (3 inches diameter)	176	38	..	.....	15.86 meters.
REFERENCE STATION	186	32	50	.....	4.99 meters.
Nail in blaze on tree (14 inches diameter)	255	33	..	.....	5.86 meters.

REVELL.

Locality.—South shore of Magothy River, about 1¼ miles west-northwest of Persimmon Point and 1¼ miles south of east end of Dobbins Island. (See Chart No. 2.)

Observed station is on a bluff 6 feet high and 22 feet from the edge. It is in a large cleared space about 100 yards west of woods. Cement monument marking reference station is 5.54 meters south southwest of observed station.

Marks.—Observed station is a nail in a wooden stub projecting 4 inches above the ground. Reference station is the center point of triangle on standard cement monument.

References.—	°	′	″		
"Huddle" (N 67° 20′ W)	0	00	00	.....	1¼ miles.
House on Dobbins Island	71	18	..	.....	1¼ miles.
House on hill back of Mountain Point	136	35	..	.....	1½ miles.
Right tangent Mountain Point	161	18	..	.....	1½ miles.
REFERENCE STATION	261	20	00	.....	5.54 meters.

PURSE.

Locality.—South of entrance to Magothy River on a prominent hill about ¼ mile south southeast of Persimmon Point. (See Chart No. 2.)

Observed station is on the nearer of two summits, the other one being occupied by a lone cedar tree. The observed station is almost on line between this cedar tree and Mountain Point. Cement monument marking reference station is 8.93 meters south of observed station.

Marks.—Observed station is a nail in a wooden stub projecting 4 inches above the ground. Reference station is the center point of triangle on standard cement monument.

References.—	°	′	″		
"Bluff" (N 9° 10′ W)	0	00	00	.....	1¾ miles.
Tangent to shore toward Sandy Point	31	26	..	.....	¾ mile.
Right tangent to Gibson Island	34	36	..	.....	2 miles
Left chimney of farmhouse with red roof	133	52	..	.....	½ mile.
REFERENCE STATION	185	05	50	.....	8.93 meter
Lone cedar tree		SSW		.....	185 paces
Left of two prominent trees	288	27	..	.....	¼ mile
Right of two prominent trees	295	07	..	.....	¼ mile.

MAGOTHY.

Locality.—West shore of bay, about halfway between Persimmon Point and Sandy Point. It is about 2 miles northwest of Sandy Point Light and about 2 miles south-southeast of Mountain Point. (See Chart No. 2.)

Observed station is about 20 feet back from the edge of a bluff 20 feet high. It is just outside an orchard about midway between a group of farm buildings and a grove of trees to the westward. Cement monument marking reference station is 11.63 meters west of observed station.

Marks.—Observed station is a nail in a wooden stub projecting 3 inches above ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Welch" (N 32° 08′ W)	0	00	00	2½ miles.
Right tangent Gibson Island	21	02	..	3 miles.
West peak of farmhouse	184	49	..	¼ mile.
Nail in blaze on tree	158	52	..	62.3 meters.
REFERENCE STATION	287	44	10	11.63 meters.
Nail in blaze on tree	336	14	..	32.92 meters.

CORN.

Locality.—West shore of bay, about 1 mile northwest of Sandy Point Light. (See Chart No. 2.)

Observed station is in a cultivated field about 18 feet back from edge of a bluff 15 feet high. Cement monument marking reference station is 9.42 meters west of observed station.

Marks.—Observed station is a nail in a stub set flush with ground. Reference station is center point of triangle of standard cement monument.

References.—

	°	′	″	
"Peach Hill" (N 20° 48′ W)	0	00	00	4 miles.
Baltimore Light	19	47	..	2¼ miles.
Extreme north tangent of Kent Island	98	47	..	5 miles.
Sandy Point Light	149	34	..	1 mile.
Lone oak tree (2 inches diameter)	229	14	..	¼ mile.
East peak of red roof of barn or house	243	08	..	¾ mile.
REFERENCE STATION	258	51	30	9.425 meters.

SANDY POINT LIGHT.

Locality.—East of Sandy Point about ½ mile offshore. (See Chart No. 2.)

Marks.—Center point of black lantern on brown caisson structure known as Sandy Point Lighthouse.

References.—

	°	′		
"Bay Side"	S 64	14	W	½ mile.

RING.

Locality.—Shore of bay on west side of Kent Island about 2 miles south-southwest of Love Point and 3 miles east of Sandy Point Light. (See Progress map.)

Observed station is about 20 feet above and 35 feet back from high-water mark. It is in a cultivated field on top of bank and about 6 feet back from edge. Cement monument marking reference station is 9.36 meters east of observed station.

Marks.—Observed station is center of a 4-inch tile pipe with its top 3 inches below the surface. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Sandy Point Light" (N 84° 56′ W)	0	00	00	3 miles.
Cupola on barn	117	51	..	1 mile.
South chimney on white house	141	00	..	¼ mile.
REFERENCE STATION	164	17	10	9.36 meters.
Lone tree (2 inches diameter)	224	10	..	300 yards.
South chimney on white house	238	56	..	300 yards.

BAY SIDE.

Locality.—West shore of bay on Sandy Point about ½ mile west-southwest of Sandy Point Light and about ¼ mile southeast of Bay Side Farm dwellings. (See Chart No. 2.)

Observed station is on low sandy point about 2 feet above and 75 yards back from high-water mark and 14 paces east of road to Bay Side house. A number of small locust trees stand in the immediate vicinity.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Sandy Point Light" (N 64° 13′ E)	0	00	00	½ mile.
Nail in locust tree (8 inches diameter)	128	45	..	19.69 meters.
Nail in locust tree (6 inches diameter)	173	46	..	17.02 meters.
West chimney of Bay Side Farm house	245	56	..	350 yards.
West cupola on Bay Side barn	249	45	..	400 yards.
West peak of small house (red roof)	275	40	..	300 yards.

CLUMP.

Locality.—West shore of bay about one-third way from Hackett Point to Sandy Point on the narrow neck of land east of Goose Pond. (See Chart No. 2.)

Observed station is 3 feet above and 15 feet back from high-water mark. A group of pine trees stand west of station. Cement monument marking reference station is 6.24 meters west of observed station.

Marks.—Observed station is a nail in a stub set flush with ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Sandy Point Light" (N 47° 47′ E)	0	00	00	2 miles.
West chimney of white house on Kent Island abreast of station	62	12	..	4 miles.
Nail in blaze on pine tree (10 inches diameter)	185	58	..	8.00 meters.
St. Anne's Church spire in Annapolis	202	44	..	4 miles.
Statehouse Dome	206	35	..	4 miles.
REFERENCE STATION	218	01	40	6.42 meters.
Nail in blaze on pine tree (10 inches diameter)	247	17	..	8.68 meters.
West chimney of white house	313	09	..	1 mile.

WASH.

Locality.—East shore of bay, on west side of Kent Island, about ½ mile south of entrance to Broad Creek. (See Progress map.)

Observed station is in a cultivated field about 30 feet back from edge of bluff 15 feet high and about 15 feet south of a small gully making in from bay. Cement monument marking reference station is 12.90 meters east of observed station.

Marks.—Observed station is a nail in a stub flush with ground. Reference station is center of triangle on standard cement monument.

References.—

	°	′	″	
"Sandy Point Light" (N 36° 19′ W)	0	00	00	3½ miles.
West chimney of house	116	24	..	½ mile.
East chimney of white house	149	38	..	400 yards.
REFERENCE STATION	156	11	10	12.90 meters.
Cupola on barn	164	09	..	400 yards.
Lone tree (2½ feet diameter)	195	32	..	150 yards.
Tree (15 inches diameter)	208	34	..	175 yards.
East chimney on white house	234	38	..	½ mile.
Thomas Point Light	260	32	..	7 miles.

HACKETT.

Locality.—North side of Annapolis Roads, on the east side of Hackett Point, about 2 miles northeast of Greenbury Light and 3 miles southwest of Sandy Point Light. (See Chart No. 2.)

Observed station is in a cultivated field about 21 feet back from edge of a bluff 15 feet high. It is about 90 feet north of the extreme southeast end of point. A number of large sandstone bowlders are at the foot of the bluff near the station and a group of several stumps stand on edge of bank opposite station. Cement monument marking reference station is 8.68 meters northwest of observed station.

Marks.—Observed station is a nail in a pine stub set flush with ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Greenbury Light" (S 52° 55′ W)	0	00	00	.....	2 miles.
St. Anne's Church spire	24	12	..	.....	3¼ miles.
Statehouse Dome	28	34	..	.....	3¼ miles.
Chapel Dome (Naval Academy)	31	08	..	.....	3 miles.
REFERENCE STATION	57	05	00	.....	8.68 meters.
North chimney of red roof house	120	15	..	.....	¼ mile.
Sandy Point Light	172	37	..	.....	3 miles.

SPIT.

Locality.—East shore of Whitehall Bay on west side Hackett Point about ½ mile south of Whitehall wharf and 2 miles northeast of Greenbury Point. (See Chart No. 2.)

Observed station is on low sand point about 4 feet above and 50 yards back from end of point at high water mark and is on round sand knoll abont 2 feet high.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Greenbury Light" (S 43° 50′ W)	0	00	00	.....	2 miles.
North chimney of house on opposite shore	23	17	..	.....	½ mile.
North chimney of Whitehall house	131	25	..	.....	½ mile.
North chimney of white house	139	28	..	.....	½ mile.
Peak of small house on Whitehall wharf	155	37	..	.....	½ mile.
Northwest corner of small shanty	186	40	..	.....	100 yards.
Nail in locust tree (4 inches diameter)	231	30	..	.....	35 yards.
Chimney on small house	250	15	..	.....	150 yards.

CHASE (WHITEHALL BAY).

Locality.—West shore of Whitehall Bay on point between Mill and Whitehall creeks about ¾ mile northwest of Hackett Point and ½ mile west by south of Whitehall wharf. (See Chart No. 2.)

Observed station is in young peach orchard about 30 feet back from edge of a bank 18 feet high. Cement monument marking reference station is 8.87 meters northeast of observed station.

Marks.—Observed station is a nail in stub flush with ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Greenbury Light" (S 26° 22′ W)	0	00	00	.....	2 miles.
Lone tree (2 feet diameter)	150	49	..	.....	300 yards.
REFERENCE STATION	191	27	00	.....	8.87 meters.
Center of Whitehall wharf house	230	49	..	.....	¾ mile.
West chimney on red roof house (opposite shore)	265	50	..	.....	¾ mile.
West edge of small shanty on beach (opposite shore)	278	18	..	.....	½ mile.

GREENBURY.

Locality.—North side of entrance to Severn River, on Greenbury Point, about ¼ mile north of Greenbury Light-house. (See Chart No. 2.)

Observed station is 60 feet back from end of point and 15 feet above high-water mark.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Greenbury Light" (S 7° 20′ E)	0	00	00	250 yards.
Nail in dead cherry tree (12 inches diameter)	6	37	..	11.55 meters.
Statehouse Dome	107	03	..	1½ miles.
Chapel Dome (Naval Academy)	114	37	..	1½ miles.
Center of water tower opposite Naval Academy	144	32	..	1¼ miles.

GREENBURY POINT LIGHT.

Locality.—North side of entrance to Annapolis Harbor, about 250 yards off shore south of Greenbury Point. (See Chart No. 2.)

Marks.—Center of black lantern on screw pile structure known as Greenbury Point Light-house.

References.—

	°	′		
"Greenbury"	N 7	20 W	.....	250 yards.

FORT.

Locality.—Northeast side of entrance to Severn River, about 1 mile northwest of Greenbury Point and 1 mile northeast of Naval Academy sea wall. (See Chart No. 2.)

Observed station is 6 feet back from top of bank protected by a masonry wall that has fallen down in places, 10 feet above high-water mark, and 2 feet north of a brick gutter on top of bank. Cement monument marking reference station is 9.12 meters north of observed station.

Marks.—Observed station is center of a 4-inch tile pipe, with top flush with surface of ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Horn" (S 38° 20′ W)	0	00	00	¾ mile.
Saint Anne's Church spire	30	11	..	1¼ miles.
Statehouse Dome	41	23	..	1¼ miles.
Chapel Dome (Navel Academy)	48	06	..	1 mile.
South chimney of yellow house (red roof)	88	37	..	80 yards.
REFERENCE STATION	150	00	40	9.12 meters.
Greenbury Light	296	12	..	1¼ mile.

BLUFF (SEVERN RIVER).

Locality.—East side of Severn River, on high bluff, opposite Santee Wharf of Naval Academy. (See Chart No. 2.)

Observed station is 6 feet back from edge of bank 25 feet high. Cement monument marking reference station is 11.842 meters northeast of observed station.

Marks.—Observed station is center of a 4-inch tile pipe, with top 6 inches below surface of ground. Referenee station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Hospital" (N 80° 00′ W)	0	00	00	¾ mile.
West chimney of yellow house	51	13	..	¼ mile.
Nail in blaze on locust tree (18 inches diameter)	106	09	..	25.93 meters.
REFERENCE STATION	126	56	20	11.84 meters.
Nail in blaze on locust tree (8 inches diameter)	163	46	..	26.27 meters.
Statehouse Dome	318	54	..	¾ mile.
Chapel Dome (Naval Academy)	322	01	..	¾ mile.
Saint John's College	329	25	..	¾ mile.

BRICE.

Locality.—Northeast shore of Severn River on Brice Point near northeast end of County Bridge. (See Chart No. 2.)

Observed station is 15.40 meters northeast of end of rail of County Bridge about 9 yards north of center of County road and 25 yards west of small pond. It is 3 feet above and 75 feet back from high-water mark.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Bluff" (S 46° 01′ E)	0	00	00	¾ mile.
Chapel Dome (Naval Academy)	50	23	..	½ mile.
Statehouse Dome	61	51	..	¾ mile.
Lowest bolt head in end post of ground rail on County Bridge	65	24	..	15.40 meters.
Chimney on bridge-tender's house	101	18	..	¼ mile.
South chimney of yellow house	157	50	..	¾ mile.
Chimney on slate-covered house	190	18	..	½ mile.
North chimney of yellow house	199	26	..	½ mile.
Nail in blaze on locust tree (4 inches diameter)	208	15	..	10.89 meters.
West chimney of house	267	17	..	¼ mile.
Nail in blaze on locust stump (4 inches diameter)	339	23	..	4.29 meters.

KNOB.

Locality.—North shore of Severn River about 150 yards northwest by north of north end Maryland Electric Railway Bridge. (See Chart No. 2.)

Observed station is on round knob-hill about 15 feet above and 30 feet back from high-water mark. Cement monument marking reference station is 11.28 meters northeast of observed station.

Marks.—Observed station is a nail in pine stub projecting 4 inches above ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Weems" (N 88° 48′ W)	0	00	00	¾ mile.
South peak of yellow house	27	08	..	2 miles.
North chimney of yellow house	110	41	..	250 yards.
REFERENCE STATION	124	49	40	11.28 meters.
Chimney on small shanty on railroad bridge	203	44	..	150 yards.
Chapel Dome (Naval Academy)	254	25	..	1½ miles.
Hospital (covered chimney or cupola)	261	25	..	1¼ miles.
Statehouse Dome	263	14	..	1¾ miles.

SPRING.

Locality.—Northeast shore of Severn River about ¾ mile above the Maryland Electric Railway Bridge and on first point southeast of mouth of Cool Creek. (See Chart No. 2.)

Observed station is on low sand point about 2 feet above and 45 feet back from high-water mark. It is about 15 yards west of small pond and 100 yards west of a bluff 25 feet high.

Marks.—Observed station is center point of triangle on standard cement monument. (NOTE.—This monument replaces a 4-inch tile pipe marking old station.)

References.—	°	′	″	
"Field" (S 29° 24′ E)	0	00	00	1 mile.
Chapel Dome (Naval Academy)	4	07	..	2 miles.
North chimney on red house (opposite shore)	74	43	..	¼ mile.
Chimney on white house (opposite shore)	90	06	..	¼ mile.
North chimney of yellow house	207	25	..	200 yards.
Oak stump (5 inches diameter)	228	39	..	2.35 meters.
Nail in blaze on locust tree (8 inches diameter)	291	03	..	7.25 meters.
Water tower (opposite Naval Academy)	340	07	..	2 miles.

COOL.

Locality.—Northeast shore of Severn River on point between Chase and Cool Spring creeks and about 1¼ miles above the Maryland Electric Railway Bridge. (See Chart No. 2.)

Observed station is on low point of land about 2 feet above and 20 feet back from high-water mark and is 7 feet south of small drain ditch 2 feet wide. Cement monument marking reference station is 7.25 meters north-northeast of observed station.

Marks.—Observed station is center of 4-inch tile pipe flush with surface of ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Weems" (S 26° 14′ E)	0	00	00	.....	¼ mile.
Chimney on white house (opposite shore)	13	23	..	.....	½ mile.
Chimney on small white shanty (opposite shore)	53	39	..	.....	½ mile.
Chimney on yellow house (opposite shore)	139	15	..	.....	1 mile.
West chimney of house	180	42	..	.....	½ mile.
Nail in blaze on persimmon tree (4 inches diameter)	184	21	..	.....	16.50 meters.
REFERENCE STATION	221	29	10	.....	7.25 meters.
Nail in blaze on oak tree (12 inches diameter)	311	04	..	.....	14.82 meters.
Water tower (opposite Naval Academy)	336	13	..	.....	2½ miles.

CHASE (SEVERN RIVER).

Locality.—Northeast shore of Severn River on point on northwest side of entrance to Chase Creek. (See Chart No. 2.)

Observed station is on low marshy point about 2 feet above and 18 feet back from high-water mark and 25 yards southwest of foot of a bluff 50 feet high. Cement monument marking reference station is 7.05 meters north of observed station.

Marks.—Observed station is center of 4-inch tile-drain flush with ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Cool" (S 47° 38′ E)	0	00	00	.....	½ mile.
Chimney on yellow house (opposite shore)	30	44	..	.....	½ mile.
Chimney on small shanty (opposite shore)	38	01	..	.....	½ mile.
Middle window of yellow house (abreast of station)	77	02	..	.....	¼ mile.
North chimney of red roof house (opposite shore)	102	04	..	.....	¼ mile.
Chimney on yellow house (opposite shore)	146	26	..	.....	½ mile.
REFERENCE STATION	241	31	30	.....	7.05 meters.
North chimney of white house	306	34	..	.....	1 mile.

POINT.

Locality.—Northeast shore of Severn River about ½ mile east-southeast of Brewer Point and on second point northwest of mouth of Chase Creek. (See Chart No. 2.)

Observed station is back of a long, low marsh point and about 25 feet up side of slope. Two lone cedar trees stand on prominent hill about 150 yards to the northeast of station. Several old apple trees stand in the immediate vicinity of station.

Marks.—Observed station is center point of triangle on standard cement monument. (NOTE.—This monument replaces a 4-inch drain tile marking old station.)

References.—	°	′	″		
"Salt" (S 1° 44′ W)	0	00	00	.....	¾ mile.
Chimney on yellow house (opposite shore)	43	24	..	.....	½ mile.
Southwest corner of house	139	43	..	.....	¾ mile.
Nail in apple tree (12 inches diameter)	233	34	..	.....	12.55 meters.
Windmill	255	15	..	.....	250 yards.
Nail in apple tree (15 inches diameter)	280	38	..	.....	5.70 meters.

BIGHT.

Locality.—Northeast shore of Severn River about ½ mile northeast of Brewer Point and ½ mile southeast of Arnold Point. (See Chart No. 2.)

Observed station is on low, narrow neck of land and about 2 feet above and 15 feet back from high-water mark. It is 15 feet south of foot of slope to a yellow sand bluff 60 feet high. A group of holly trees stand about 10 feet east of station. Cement monument marking reference station is 11.64 meters northeast of observed station.

Marks.—Observed station is a nail in a stub set in center of a 4-inch tile pipe. Reference station is center point of triangle on standard cement monument.

References.	°	′	″	
"Clem" (S 7° 45′ W)	0	00	00	¾ mile.
South chimney of yellow house (opposite shore)	36	56		½ mile.
Northwest corner of unpainted house (opposite shore)	144	17		¼ mile.
Nail in blaze on leaning pine tree (12 inches diameter)	175	29		3.72 meters.
REFERENCE STATION	201	34	20	11.64 meters.
Nail in blaze on holly tree (4 inches diameter)	251	05		3.79 meters.
East cedar tree of two standing close together (first hill south)	353	09		½ mile.

ARNOLD.

Locality.—Northeast shore of Severn River on Arnold Point on northwest side of entrance to Aisquith Creek and about ½ mile north of Brewer Point. (See Chart No. 2.)

Observed station is at foot of slope meeting a long, narrow, low neck of land extending about 200 yards southeast of station. It is 3 feet above and 12 feet back from high-water mark. A small holly tree stands about 15 feet east of station. Cement monument marking reference station is 3.75 meters north of observed station.

Marks.—Observed station is a nail in stub set in a tile pipe with top 3 inches below surface of ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Brewer" (S 6° 28′ E)	0	00	00	½ mile.
Center of cottage on Long Point	123	08		1½ miles.
Nail in blaze on cedar tree (10 inches diameter)	138	57		5.96 meters.
REFERENCE STATION	167	16	40	3.75 meters.
Northwest corner of small house up Aisquith Creek	255	30		½ mile.
Nail in blaze on locust tree (4 inches diameter)	293	33		8.31 meters.
Chimney on yellow house (opposite shore)	358	09		1 mile.

SWAN.

Locality.—Northeast shore of Round Bay in Severn River on north side of entrance to Ringold Cove about 1¼ miles northeast by east of Long Point. (See Chart No. 2.)

Observed station is about 100 yards north of entrance to Ringold Cove; about 2 feet above and 15 feet back from high-water mark and 25 feet west of a bluff 25 feet high. Cement monument marking reference station is 7.78 meters east of observed station.

Marks.—Observed station is center of a 4-inch tile pipe with top 1 foot below surface of ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Long" (S 73° 38′ W)	0	00	00	1¼ miles.
Peak of yellow house (opposite shore)	17	04		1½ miles.
West chimney of white house	62	54		1½ miles.
North tangent of brown wharf house	81	53		¾ mile.
Nail in pine tree (15 inches diameter)	125	42		12.76 meters.
REFERENCE STATION	165	39	30	7.78 meters.
Nail in red oak tree (2 feet diameter)	178	03		12.50 meters.

HIGH.

Locality.—Northeast shore of Round Bay in Severn River on Eaglenest Point and on ground occupied by the Round Bay Resort. (See Chart No. 2.)

Observed station is 15 feet back from the edge of a bank 20 feet high and 25 paces southwest of the southwest corner of the dancing pavilion. Cement monument marking reference station is 8.66 meters northeast of observed station.

Marks.—Observed station is center of a 4-inch tile pipe with top 1 foot below surface of ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Swan" (S 33° 19′ E)	0	00	00	.....	¾ mile.
Chimney on house (opposite shore)	48	35	..	.....	1½ miles.
Chimney on cottage on Long Point	65	31	..	.....	1 mile.
Green water tower	154	44	..	.....	¾ mile.
Nail in blaze on pine tree (8 inches diameter)	193	07	..	.....	7.98 meters.
Southwest corner dancing pavilion	221	57	..	.....	25 yards.
REFERENCE STATION	235	07	20	.....	8.66 meters.
Nail in blaze on pine tree (7 inches diameter)	254	07	..	.....	7.58 meters.

CEDAR (SEVERN RIVER).

Locality.—Upper end of Round Bay in Severn River on Cedar Point. It is on the southeast side of entrance to Yantz Creek. (See Chart No. 2.)

Observed station is 2 feet above and 50 feet back from high-water mark at the extreme west end of Cedar Point. Several cedar trees stand just east of station. Cement monument marking reference station is 7.92 meters east of observed station.

Marks.—Observed station is center of a 4-inch tile pipe with top 1 foot below surface of ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"High" (S 76° 39′ E)	0	00	00	.....	1 mile.
Chimney on red roof of cottage	2	29	.	.....	1¼ miles.
Chapel Dome (Naval Academy)	39	31	..	.....	7 miles.
Chimney on old house	210	57	..	.....	1 mile.
Chimney on yellow house	230	58	..	.....	½ mile.
Nail in blaze on locust tree (3 inches diameter)	288	17	..	.....	10.56 meters.
REFERENCE STATION	302	20	10	.....	7.92 meters.
Green water tower	339	33	..	.....	½ mile.

SHARP.

Locality.—Southwest shore of Round Bay in Severn River about ½ mile northwest of Long Point and ½ mile southeast of Cedar Point. (See Chart No. 2.)

Observed station is on the first low point above Long Point, and is 2 feet above and 25 feet back from high-water mark. A wooded bluff is 100 feet west of station. Cement monument marking reference station is 5.31 meters southwest of observed station.

Marks.—Observed station is center of a 4-inch tile pipe with top 1 foot below surface of ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"High" (N 63° 51′ E)	0	00	00	.....	1 mile.
Cupola on brown wharf (opposite shore)	6	27	..	.....	1 mile.
Chimney on red-roof cottage (opposite shore)	14	32	..	.....	1 mile.
Nail in blaze on locust tree (3 inches diameter)	132	46	..	.....	8.03 meters.
REFERENCE STATION	158	10	30	.....	5.31 meters.
Chimney on yellow house	272	31	..	.....	1½ miles.
Green water tower (opposite shore)	317	24	..	.....	1 mile.

LONG.

Locality.—North side of entrance to Little Round Bay in Severn River on Long Point, about ½ mile northeast of St. Helena Island. (See Chart No. 2.)

Observed station is on a low marsh point about 2 feet above and 12 feet back of high-water mark. A small cottage stands about 30 yards north of station. Cement monument marking reference station is 5.05 meters northwest of observed station.

Marks.—Observed station is center of a 4-inch tile pipe with top 1 foot below surface of ground. Reference station is center point of triangle of standard cement monument.

References.—	°	′	″	
"Bay" (S 18° 26′ E)	0	00	00	¾ mile.
West chimney on house (opposite shore)	14	59	..	¾ mile.
Nail in blaze on white oak tree (4 inches diameter)	93	11	..	10. 19 meters.
REFERENCE STATION	136	58	20	5.05 meters.
Peak of cottage	153	36	..	30 yards.
Nail in blaze on pine tree (8 inches diameter)	170	52	..	10. 97 meters.
Cupola on brown wharf (opposite shore)	237	32	..	1 mile.
Chimney on red-roof cottage	247	09	..	1 mile.

ISLAND.

Locality.—Little Round Bay in Severn River on the southeast point of St. Helena Island. (See Chart No. 2.)

Observed station is on a low marsh point about 2 feet above and 15 feet back from high-water mark and 25 feet south of foot of round hill 15 feet high. Cement monument marking reference station is 7.74 meters northwest of station.

Marks.—Observed station is center of a 4-inch tile pipe with top 1 foot below surface of ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Bay" (S 53° 19′ E)	0	00	00	¾ mile.
South chimney on house	95	35	..	1½ miles.
REFERENCE STATION	198	47	40	7. 74 meters.
Nail in blaze on twin tree (6 inches diameter)	202	04	..	9. 01 meters.
Nail in blaze on twin black haw tree (6 inches diameter)	244	50	..	5. 42 meters.
Chimney on red-roof cottage (opposite shore)	280	29	..	1½ miles.
North peak of white barn (opposite shore)	294	38	..	1½ miles.
Chimney on north end small house (opposite shore)	306	12	..	2 miles.

BAY (SEVERN RIVER).

Locality.—Southwest shore of Severn River on south side of entrance to Round Bay, about ¾ mile southeast of St. Helena Island and ¾ mile south by east of Long Point. (See Chart No. 2.)

Observed station is at high-water mark at foot of a bluff 25 feet high. Cement monument marking reference station is on slope 7.31 meters southwest of observed station.

Marks.—Observed station is center of 4-inch tile pipe projecting 10 inches above the surface of ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Arnold" (N 80° 10′ E)	0	00	00	1 mile.
North chimney of white house (opposite shore)	6	01	..	1½ miles.
Nail in blaze on white oak tree (2 feet diameter)	64	12	..	16. 50 meters.
REFERENCE STATION	116	57	20	7. 31 meters.
Nail in blaze on oak stump (8 inches diameter)	156	39	..	3. 73 meters.
Nail in blaze on chestnut oak (15 inches diameter)	198	07	..	12. 97 meters.
Southeast corner of cottage on Long Point	260	28	..	¾ mile.

BREWER (SEVERN RIVER).

Locality.—Southwest shore of Severn River on Brewer Point and north of mouth of Brewer Creek. (See Chart No. 2.)

Observed station is on a low sand point about 2 feet above and 10 feet back from high-water mark and about 30 yards northwest of extreme end of point. A small lone holly tree stands southwest of station and a bluff 30 feet high is 25 feet southwest. Cement monument marking reference station is 8.10 meters south of observed station.

Marks.—Observed station is a 4-inch tile pipe with top 6 inches below surface of ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Point" (S 68° 37′ E)	0	00	00	½ mile.
North chimney of white house (opposite shore)	4	32	..	1 mile.
Chimney in center of yellow house	30	41	..	1½ miles.
REFERENCE STATION	63	56	20	8.10 meters.
Nail in blaze on holly tree (5 inches diameter)	103	10	..	3.64 meters.
Nail in blaze on cedar tree (12 inches diameter)	165	11	..	35 yards.
North chimney of yellow house (opposite shore)	284	24	..	½ mile.
North chimney of green house, windmill in rear (opposite shore)	354	38	..	¾ mile.

CLEM.

Locality.—Southwest shore of Severn River on point between Clement Creek and Brewer Creek. (See Chart No. 2.)

Observed station is on a low sand point about 2 feet above and 35 feet back from high-water mark. Cement monument marking reference station is 10.07 meters west of observed station.

Marks.—Observed station is a nail in stub flush with ground, set in 4-inch tile pipe with top 4 inches below surface of ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Chase" (S 75° 18′ E)	0	00	00	½ mile.
Water tower (opposite Naval Academy)	22	36	..	3 miles.
Chimney in center of yellow house	34	30	..	1 mile.
North chimney of house (south side of Clement Creek)	68	20	..	½ mile.
REFERENCE STATION	134	08	30	10.07 meters.
Chimney on yellow house	161	34	..	300 yards.
Small locust tree (2½ inches diameter)	222	15	..	30 yards.
Windmill (opposite shore)	307	03	..	½ mile.

SALT.

Locality.—Southwest shore Severn River between Clement and Saltwork creeks and abreast of Chase Creek. (See Chart No. 2.)

Observed station is 10 feet back from edge of a bank 10 feet high. A number of small cedar trees stand on edge of bank in front of station. Cement monument marking reference station is 8.07 meters west of observed station.

Marks.—Observed station is a nail in stub in a 4-inch tile pipe with top 2 inches below surface of ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Cool" (S 84° 23′ E)	0	00	00	¾ mile.
Water tower (opposite Naval Academy)	27	51	..	2½ miles.
Chimney in center of yellow house	34	45	..	¾ mile.
REFERENCE STATION	142	31	30	8.07 meters.
North chimney of red roof house	149	27	..	80 yards.

Center of large oak tree (2½ feet diameter)	206	22	.. ..	50 yards.
Chimney on yellow house	223	27	.. ..	½ mile.
Nail in blaze on twin cedar tree (3 inches diameter)	254	40	.. ..	5.88 meters.
Nail in blaze on cedar tree (8 inches diameter)	328	44	.. ..	7.20 meters.
South chimney standing alone (opposite shore)	332	35	.. ..	1 mile.

LUCE.

Locality.—Southwest shore of Severn River about 200 yards northwest of entrance to Luce Creek and 1¼ miles above Railway Bridge. (See Chart No. 2.)

Observed station is on low island at mouth of Hammond Fish Pond and about 2 feet above and 18 feet back from high-water mark. A number of small trees stand in the immediate vicinity. Cement monument marking reference station is 7.32 meters southwest of observed station.

Marks.—Observed station is center of a 4-inch tile pipe with top flush with surface of ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Spring" (S 84° 24′ E)	0	00	00	¾ mile.
Chimney on yellow house first hill south	56	34	.. ..	¼ mile.
Twin cedar tree (3 inches diameter)	88	27	.. ..	15.75 meters.
Chimney on small white shanty	93	28	.. ..	200 yards.
REFERENCE STATION	125	09	40	7.32 meters.
Chimney on yellow house	218	26	.. ..	1 mile.
East chimney on white house (opposite shore)	261	38	.. ..	¾ mile.
Chimney on small white house at mouth of Cool Spring Creek (opposite shore)	342	11	.. ..	½ mile.
Nail in blaze on persimmon tree (5 inches diameter)	355	22	.. ..	6.07 meters.

WEEMS.

Locality.—Southwest shore of Severn River on first point south of Luce Creek and about ¾ mile above the Railway Bridge. (See Chart No. 2.)

Observed station is on low sand point covered with myrtle bushes about 2½ feet above and 75 feet back from high-water mark at end of point. The ground rises abruptly about 150 yards west of station.

Marks.—Observed station is center point of triangle on standard cement monument. (NOTE.—This monument replaces tile marking old station.)

References.—

	°	′	″	
"Field" (S 47° 40′ E)	0	00	00	1 mile.
South chimney (red house)	99	08	.. ..	200 yards.
Chimney in center of white house	142	11	.. ..	250 yards.
North chimney of white house (opposite shore)	232	47	.. ..	½ mile.
North chimney of yellow house (opposite shore)	255	41	.. ..	½ mile.
Windmill (opposite shore)	280	56	.. ..	½ mile.
North chimney of yellow house (opposite shore)	308	28	.. ..	¾ mile.
Water tower (opposite Naval Academy)	350	00	.. ..	2 miles.

FIELD.

Locality.—Southwest shore of Severn River on first point east of Railway Bridge and ¼ mile north of County Bridge. (See Chart No. 2.)

Observed station is on round knob hill about 10 feet above high-water mark and 15 feet west of edge of low sand point extending 50 yards to the west.

Marks.—Observed station is center point of triangle on standard cement monument. (NOTE.—This monument replaces tile marking old station.)

References.—

	°	′	″		
"Weems" (N 47° 39′ W)	0	00	00	.....	1 mile.
Center chimney of lead-colored house (opposite shore)	21	47	..	.....	¾ mile.
North chimney of yellow house (opposite shore)	49	30	..	.....	½ mile.
Blaze on pine tree (12 inches diameter)	161	26	..	.....	10. 30 meters.
Chapel Dome (Naval Academy)	206	15	..	.....	1 mile.
Hospital cupola	214	10	..	.....	¾ mile
Blaze on poplar tree (12 inches diameter)	326	46	..	.....	7. 18 meters.

HOSPITAL CUPOLA (NAVAL ACADEMY).

Locality.—Southwest shore of Severn River on prominent hill. It is a short distance back from shore and just south of County Bridge. (See Chart No. 2.)

Marks.—Center point of cupola on new Naval Hospital.

References.—None necessary.

FLAGSTAFF (NAVAL ACADEMY BOATHOUSE).

Locality.—Naval Academy grounds near Santee Wharf. (See Chart No. 2.)

Marks.—Center of flagstaff on northwest end of boathouse at Naval Academy.

References.—None necessary.

STATEHOUSE DOME (ANNAPOLIS).

Locality.—City of Annapolis. (See Chart No. 2.)

Marks.—Center of Statehouse Dome.

References.—None necessary.

ST. ANNE'S CHURCH SPIRE (ANNAPOLIS).

Locality.—City of Annapolis. (See Chart No. 2.)

Marks.—Center of spire on St. Anne's Church.

References.—None necessary.

CATHOLIC CHURCH SPIRE (ANNAPOLIS).

Locality.—City of Annapolis. (See Chart No. 2.)

Marks.—Center of spire on Catholic Church.

References.—None necessary.

ST. JOHN'S COLLEGE CUPOLA (ANNAPOLIS).

Locality.—City of Annapolis. (See Chart No. 2.)

Marks.—Center of belfry on St. John's College.

References.—None necessary.

HORN (SEVERN RIVER).

Locality.—Southwest shore of Severn River, on Horn Point, about ¾ mile southeast of wharves in Annapolis Harbor and on south side of entrance to Spa Creek. (See Chart No. 2.)

Observed station is about 30 yards north of wire fence and 200 yards northwest of white house with red tin roof. Cement monument marking reference station is 11.24 meters west of observed station.

Marks.—Observed station is center of a 4-inch tile pipe with top flush with ground. Reference station is center point of triangle on standard cement monument.

References.	°	′	″		
"Greenbury Light-house" (S 74° 51′ E)	0	00	00	.....	1 mile.
Chimney on yellow house	86	05	..	.....	1/2 mile.
REFERENCE STATION	134	55	50	.....	11.24 meters.
Statehouse Dome	190	51	..	.....	1 mile.
St. John's College	198	58	..	.....	1 mile.
Chapel Dome (Naval Academy)	208	13	..	.....	3/4 mile.

START.

Locality.—Southwest shore of Annapolis Roads, about 1/2 mile south of Horn Point and 1 mile west of Greenbury Light-house. (See Chart No. 2.)

Observed station is on wooded shore 15 feet back from edge of a bank 7 feet high. Cement monument marking reference station is 8.45 meters west of observed station.

Marks.—Observed station is a nail in a stub set flush with ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Greenbury Light" (N 74° 50′ E)	0	00	00	.....	1 mile.
Tangent to Tolly Point	67	00	..	.....	2 miles.
Extreme west point of roof of Bay Ridge Hotel	72	20	..	.....	2 miles.
Nail in blaze on oak tree (12 inches diameter)	144	41	..	.....	16.26 meters.
REFERENCE STATION	171	22	20	.....	8.45 metres.
Nail in blaze on oak tree (8 inches diameter)	236	32	..	.....	11.38 meters.
Water tower (opposite Naval Academy)	286	27	..	.....	1 1/4 miles.

GRAM.

Locality.—Southwest shore of Annapolis Roads near northwest entrance to Cat Hole Creek and about 1 1/2 miles south-southwest of Greenbury Light. (See Chart No. 3.)

Observed station is 55 feet back from edge of a bluff 30 feet high. A small round knoll is 60 feet west and 5 feet higher than station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Greenbury Light" (N 31° 53′ E)	0	00	00	.....	1 1/2 miles.
Nail in blaze on small locust tree (3 inches diameter)	97	34	..	.....	26.40 meters.
North tangent of roof of old Bay Ridge Hotel	103	18	..	.....	1 mile.
Nail in blaze on locust stump (4 inches diameter)	312	43	..	.....	22.95 meters.
Tangent to Horn Point	314	15	..	.....	1 1/2 miles.
Water tower (opposite Naval Academy)	322	15	..	.....	2 miles.
South chimney of house on Greenbury Point	351	46	..	.....	2 miles.

TOLLY.

Locality.—South side of entrance to Annapolis Roads about 150 yards northwest of Tolly Point. (See Chart No. 3.)

Observed station is on low point of land. It is about 1 foot above and 12 feet back from high-water mark, and 175 yards northeast of old Bay Ridge Hotel. Cement monument marking reference station is 10.86 meters southwest of observed station.

Marks.—Observed station is a nail in stub flush with ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Greenbury Light" (N. 6° 12′ W)	0	00	00	1¾ miles.
Peak of Whitehall house	21	15	..	4 meters.
Nail in blaze on holly tree (12 inches diameter)	205	14	..	9.65 meters.
REFERENCE STATION	229	35	30	10.86 meters.
Nail in blaze on swamp-oak tree (18 inches diameter)	258	12	..	10.97 meters.
Chapel Dome (Naval Academy)	331	05	..	3½ miles.
Water tower (opposite Naval Academy)	346	13	..	3½ miles.

BAY RIDGE STACK.

Locality.—Bay Ridge Resort on Tolly Point. (See Chart No. 3.)

Marks.—Center of highest part of brick smokestack.

References.—None necessary.

CRANEY.

Locality.—Eastern shore of bay on west side of Kent Island, about ½ mile north of Craney Creek and 4½ miles east of Tolly Point. (See Chart No. 3.)

Observed station is 3 feet above and 30 feet back from high-water mark, on a low sandy cultivated field. A group of farm buildings stand about ¼ mile away. Cement monument marking reference station is 4.88 meters east-northeast of observed station.

Marks.—Observed station is a nail in a wooden stub projecting 3 inches above the ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Thomas Point Light" (S 56° 45′ W)	0	00	00	4¾ miles.
Greenbury Light	57	27	30	5¼ miles.
Sandy Point Light	111	26	30	5¾ miles.
REFERENCE STATION	208	51	10	4.88 meters.
Cupola on barn	258	11	..	¼ mile.
Extreme south tangent to Kent Island	310	52	..	6 miles.

COTTAGE.

Locality.—West shore of bay near group of cottages called "Arundel on the Bay" about 2 miles northwest of Thomas Point Light. (See Chart No. 3.)

Observed station is 12 feet back from edge of a bank 18 feet high. It is about 25 yards north of steamboat wharf and 3 yards east of east edge of a foot-board walk 36 paces southeast of Concord Cottage. Cement monument marking reference station is 13.70 meters west of observed station.

Marks.—Observed station is a nail in a stub set flush with ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Thomas Point Light" (S 41° 12′ E)	0	00	00	2 miles.
Tangent to Thomas Point	15	33	..	1 mile.
Green ball on north end of playhouse	26	55	..	80 yards.
Flag pole on pavilion	61	10	..	
REFERENCE STATION	114	57	10	13.70 meters.
Nail in blaze on oak tree (12 inches diameter)	115	07	..	15.50 meters.
Peak of circular red roof bath house in water	211	01	..	300 yards.
Stack at Bay Ridge	236	04	..	1¼ miles.
North flag pole on wharf	305	37	..	75 yards.

THOMAS.

Locality.—West shore of bay on a small island known as Thomas Point. It is on the north side of entrance to South River and about 1¼ miles northwest of Thomas Point Light. (See Chart No. 3.)

Observed station is 30 feet back from top of bank and about 100 feet west of extreme east end of point. Cement monument marking reference station is 7.66 meters north of observed station.

Marks.—Observed station is a nail in stub set flush with ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Thomas Point Light" (S 56° 08′ E)	0	00	00	.....	1¼ miles.
White house on Curtis Point	87	43	..	.....	4½ miles.
Peak of white house	182	06	..	.....	¾ mile.
Flag pole on wharf house	115	45	..	.....	1½ miles.
REFERENCE STATION	218	43	20	.....	7.66 meters.
Nail in blaze on ash tree (15 inches diameter)	284	59	..	.....	13.31 meters.
Nail in blaze on locust tree (5 inches diameter)	353	34	..	.....	9.64 meters.

THOMAS POINT LIGHT.

Locality.—Off entrance to South River and about 1¼ miles southeast of Thomas Point. (See Chart No. 3.)

Marks.—Center of black lantern on white hexagonal screw pile structure known as Thomas Point Light-House.

References.—	°	′		
"Thomas"	(N 56	07 W)	.....	1¼ miles.

ARUNDEL.

Locality.—North side of entrance to South River on narrow neck of land between Fishing Creek and South River. (See Chart No. 3.)

Observed station is about 5 feet above and 75 feet back from high-water mark in Fishing Creek. A sand road is 25 feet west of station. Cement monument marking reference station is 4.07 meters northeast of observed station.

Marks.—Observed station is center point of a 4-inch tile pipe with top 1 foot below the surface of ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Selby" (S 81° 28′ W)	0	00	00	.....	1¼ miles.
South peak of white house (opposite shore)	1	55	..	.....	2½ miles.
Tangent to Point	34	50	..	.....	1½ miles.
REFERENCE STATION	144	11	40	.....	4.07 meters.
Nail in blaze on twin locust tree (6 inches diameter)	145	25	..	.....	7.22 meters.
South peak of long barn across Fishing Creek	154	49	..	.....	½ mile.
Nail in apple tree (15 inches diameter)	234	30	..	.....	8.77 meters.
Chimney on red roof cottage	251	11	..	.....	300 yards.

HILL.

Locality.—Northeast shore of South River on Hills Point and on west side of entrance to Duvalls Creek. (See Chart No. 3.)

Observed station is 50 feet back from the extreme south end of Hills Point and 35 feet above high-water mark. Cement monument marking reference station is 8.07 meters northeast of observed station.

Marks.—Observed station is a nail in a pine stub projecting 3 inches above ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Selby" (S 17° 28′ E)	0	00	00	.....	1 mile.
Chimney on house (opposite shore)	63	01	..	.....	1½ miles.
South chimney on almshouse	136	51	..	.....	2½ miles.
Nail in blaze on locust tree (4 inches diameter)	213	33	..	.....	5.42 meters.
Water tower at South River Club	233	28	..	.....	¾ mile.
REFERENCE STATION	235	22	50	.....	8.07 meters.
Nail in blaze on locust tree (6 inches diameter)	257	59	..	.....	4.67 meters.
North peak of barn	249	24	..	.....	½ mile.

SWITCH.

Locality.—Northeast shore of South River on point on southwest side of entrance to Aberdeen Creek. (See Chart No. 3.)

Observed station is on the south side of a low sand point and at high-water mark. A number of cedar trees stand in the immediate vicinity. Cement monument marking reference station is 8.41 meters north of observed station.

Marks.—Observed station is center of a 4-inch tile pipe with top 2 inches below surface of ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Hill" (S 56° 19′ E)	0	00	00	.....	1 mile.
Chimney on house (opposite shore)	42	46	..	.....	1 mile.
East chimney of house (opposite shore)	161	25	..	.....	1 mile.
South chimney on almshouse	172	47	..	.....	1½ miles.
REFERENCE STATION	206	02	00	.....	8.41 meters.
Nail in blaze on cedar tree (7 inches diameter)	213	36	..	.....	3.58 meters.
Nail in blaze on leaning cedar tree	242	07	..	.....	12.76 meters.

WAGGAMAN.

Locality.—Northeast shore of South River on first point to south of entrance to Cross Creek and about 90 meters north of Ferry Point and Waggaman wharf house. (See Chart No. 3.)

Observed station is on top of a bluff 25 feet high and 15 feet back from the edge. Waggaman's dwelling is about 100 yards east of station. Cement monument marking reference station is 2.57 meters east of observed station.

Marks.—Observed station is a nail in a pine stub set flush with ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Almshouse" (S 37° 10′ W)	0	00	00	.....	½ mile.
North chimney of almshouse	10	21	..	.....	½ mile.
Cupola on barn (opposite shore)	39	18	..	.....	½ mile.
North peak of Lee wharf house	59	10	..	.....	1 mile.
Nail in blaze on pine tree (4 inches diameter)	198	56	..	.....	4.70 meters.
REFERENCE STATION	223	30	50	.....	2.57 meters.
Waggaman's windmill	233	03	..	.....	100 yards.
Nail in blaze on locust tree (8 inches diameter)	257	50	..	.....	9.41 meters.
Flag pole on Waggaman's house	302	33	..	.....	100 yards.

WAGGAMAN WINDMILL.

Locality.—Northeast shore of South River on Ferry Point.

Marks.—Observed station is center of Waggaman's windmill.

References.—None necessary.

GINGER.

Locality.—Northeast shore of South River, on prominent point on north side of Church Creek, about ½ mile east of South River Bridge. (See Chart No. 3.)

Observed station is 17 feet back from edge of a bluff 35 feet high. A number of trees stand in the immediate vicinity. Cement monument marking reference station is 7.81 meters north of observed station.

Marks.—Observed station is center of a 4-inch tile pipe with top 2 inches below surface of ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Larramore" (N 86° 25′ W)	0	00	00	.....	1 mile.
Nail in blaze on oak tree (18 inches diameter)	19	36	..	.....	9.05 meters.
Peak of Edgewater post-office	21	28	..	.....	½ mile.
Nail in blaze on mulberry tree (2 inches diameter)	45	27	..	.....	12.27 meters.
REFERENCE STATION	97	48	10	.....	7.81 meters.
Nail in blaze on locust tree (8 inches diameter)	187	46	..	.....	5.92 meters.
Waggaman's windmill	197	07	..	.....	¾ mile.
North chimney of almshouse	239	05	..	.....	¾ mile.
Cupola on barn	272	58	..	.....	½ mile.
Peak of wharf house	335	45	..	.....	½ mile.

XIMO.

Locality.—Upper end of South River, near north entrance to South River Bridge crossing river at Edgewater. (See Chart No. 3.)

Observed station is about 10 feet from high-water mark on sand beach near east edge of South River Road. It is on line with east guard rail of bridge and 18 feet distant from end of rail.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Larramore" (S 83° 21′ W)	0	00	00	.....	¾ mile.
East peak of roof of Edgewater post-office	119	45	..	.....	75 yards.
North chimney of almshouse	234	48	..	.....	1 mile.
North peak of wharf house	294	51	..	.....	¼ mile.
East chimney of white house (opposite shore)	315	59	..	.....	¾ mile.

YAZOO.

Locality.—North shore of upper South River about ¼ mile above South River Bridge. (See Chart No. 3.)

Observed station is on low marsh point about 1 foot above and 8 feet back from high-water mark. A lone tree stands west of station on opposite shore. Cement monument marking reference station is 9.96 meters northwest of observed station.

Marks.—Observed station is a nail in pine stub flush with ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Larramore" (S 26° 29′ W)	0	00	00	.....	¼ mile.
Lone cedar tree on opposite shore	5	09	..	.....	¼ mile.
North peak of wharf house	47	26	..	.....	1 mile.
REFERENCE STATION	109	45	40	.....	9.96 meters.
Nail in blaze on twin oak tree (5 inches diameter)	134	51	..	.....	5.27 meters.
Nail in blaze on red-oak tree (5 inches diameter)	160	44	..	.....	11.37 meters.
North chimney of almshouse	286	16	..	.....	1½ miles.
North peak of Lee's wharf house	303	32	..	.....	¾ mile.

TAYLOR.

Locality.—North shore of upper South River about ¾ mile above County bridge and opposite the entrance to Beards Creek. (See Chart No. 3.)

Observed station is 17 paces back from the extreme south end of a low sand point. It is 1 foot above and 8 feet back from high-water mark. Several small persimmon trees stand near station. Cement monument marking reference station is 4.22 meters west of observed station.

Marks.—Observed station is a nail in a pine stub set flush with ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Larramore" (S 57° 15′ E)	0	00	00	¼ mile.
West chimney of white house (opposite shore)	11	04	..	½ mile.
North chimney of yellow house (opposite shore)	132	09	..	¼ mile.
REFERENCE STATION	139	56	50	4.22 meters.
Nail in persimmon tree (4 inches diameter)	142	15	..	5.11 meters.
Nail in cedar tree (15 inches diameter)	248	31	..	45 yards.
Red post on porch at Edgewater post-office	332	44	..	1 mile.
Lone cedar tree opposite shore	352	54	..	300 yards.

LARRAMORE.

Locality.—South shore of upper South River near mouth of Beard Creek and about ½ mile northeast of County Bridge. (See Chart No. 3.)

Observed station is 2 feet above and 18 feet back from high-water mark. A lone cedar tree stands near the shore about 75 yards back from station. Cement monument marking reference station is 7.96 meters southwest of station.

Marks.—Observed station is a nail in a wooden stub set in a 4-inch tile pipe with top 3 inches below ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Taylor" (N 57° 14′ W)	0	00	00	¼ mile.
Nail in blaze on leaning mulberry tree (18 inches diameter)	..	..	..	17.85 meters.
Lone cedar tree	52	28	..	75 yards.
West chimney of house at Edgewater post-office	136	02	..	½ mile.
South peak of Lee's wharf house	175	39	..	½ mile.
East chimney of white house (first hill south)	200	35	..	½ mile.
REFERENCE STATION	271	29	..	7.96 meters.

BREWER (SOUTH RIVER).

Locality.—Southwest shore of South River on point on northwest side of mouth of Almshouse Creek about ¼ mile northwest by north of County almshouse and ½ mile west by south of Ferry Point. (See Chart No. 3.)

Observed station is 1 foot above and 10 feet from high-water mark. Cement monument marking reference station is 7.67 meters southwest of observed station.

Marks.—Observed station is a nail in a pine stub set flush with ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Ginger" (N 22° 00′ W)	0	00	00	½ mile.
Peak of yellow house (opposite shore)	63	04	..	1½ miles.
Waggaman windmill	100	05	..	¾ mile.
Flag pole on Waggaman Club house	105	15	..	¾ mile.
North chimney on almshouse	165	57	..	¼ mile.
Nail in blaze on leaning red oak tree (12 inches diameter)	222	55	..	6.61 meters.
REFERENCE STATION	257	01	00	7.67 meters.
Nail in blaze on white oak tree (3 inches diameter)	294	44	..	9.11 meters.

ALMSHOUSE.

Locality.—Southwest shore of South River about halfway between Glebe and Almshouse creeks and about 200 yards east of County Almshouse. (See Chart No. 3.)

Observed station is on a low sod point about 6 inches above high-water mark. A group of locust trees stands just southwest of station and an old white house stands on a hill about 100 yards southwest. Cement monument marking reference station is 9.87 meters southwest of station.

Marks.—Observed station is center of a 4-inch tile pipe set flush with surface of ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Waggaman" (N 37° 10′ E)	0	00	00	.....	½ mile.
Waggaman's windmill	5	08	..	.....	½ mile.
Nail in blaze on locust tree (5 inches diameter)	160	15	..	.....	9.76 meters.
REFERENCE STATION	171	06	00	.....	9.875 meters.
Nail in blaze on locust tree (5 inches diameter)	196	08	..	.....	7.84 meters.
North chimney of almshouse	245	17	..	.....	200 yards.
Peak of Edgewater post-office	279	57	..	.....	1½ miles.

ALMSHOUSE (LIGHTNING ROD).

Locality.—Southwest shore of South River between Glebe and Almshouse creeks near County almshouse. (See Chart No. 3.)

Marks.—Lightning rod on south chimney of almshouse.

References.—None necessary.

CEDAR (SOUTH RIVER).

Locality.—Southwest shore of South River on point between Glebe and Lonehouse creeks. (See Chart No. 3.)

Observed station is on low sand point about 1 foot above and 6 feet back from high-water mark. A number of small cedar trees stand southwest of station. Cement monument marking reference station is 5.61 meters south of observed station.

Marks.—Observed station is a nail in a stub set flush with ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Switch" (N 89° 57′ E)	0	00	00	.....	¾ mile.
REFERENCE STATION	122	14	10	.....	5.61 meters.
Nail in blaze on twin cedar tree (4 inches diameter)	133	24	..	.....	5.69 meters.
Nail in blaze on locust tree (4 inches diameter)	213	29	..	.....	5.11 meters.
South chimney on almshouse	223	06	..	.....	1 mile.
Flagstaff on Waggaman Clubhouse	253	54	..	.....	1 mile.
Waggaman windmill	256	43	..	.....	1 mile.
North chimney on brown house (opposite shore)	314	33	..	.....	¾ mile.

MAYO.

Locality.—Southwest shore of South River on Mayo Point. (See Chart No. 3.)

Observed station is about 6 feet above and 40 feet back from high-water mark. A low holly bush stands 25 feet northeast and a low sand knoll 10 feet north of station. Cement monument marking reference station is 5.95 meters southwest of observed station.

Marks.—Observed station is a nail in a wooden stub set flush with ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Selby" (S 45° 44′ E)	0	00	00	.....	1 mile.
REFERENCE STATION	87	58	10	.....	5.95 meters.
Nail in blaze on red oak tree (12 inches diameter)	108	35	..	.....	6.07 meters.
Nail in blaze on cedar tree (8 inches diameter)	140	33	..	.....	9.30 meters.
South chimney on almshouse	177	27	..	.....	2¼ miles.

	°	′	″	
North chimney on Waggaman house	192	54	.. .. ..	2¼ miles.
South chimney on red roof house (opposite shore)	223	53	.. ..	¾ mile.
Green water tower (South River Club)	270	50	.. ..	1½ miles.
North peak of old barn	281	00	.. ..	1 mile.

SELBY.

Locality.—Southwest shore of South River on Turkey Point. (See Chart No. 3.)

Observed station is 6 feet above high-water mark and about 250 yards south of the extreme north end of Turkey Point. A lone locust tree stands about 12 yards south of station. Cement monument marking reference station is 7.81 meters southwest of observed station.

Marks.—Observed station is center point of a pine stub set flush with ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Arundel" (N 81° 27′ E)	0	00	00	1¼ miles.
Locust stump (1½ feet high)	7	30	.. ..	11.30 meters.
Thomas Point Light	20	38	.. ..	3 miles.
Nail in blaze on locust tree (12 inches diameter)	113	10	.. ..	10.65 meters.
REFERENCE STATION	137	31	00	7.81 meters.
Water tower (South River Club)	276	31	.. ..	2 miles.
Peak of red roof house (opposite shore)	278	23	.. ..	1½ miles.
Peak of white house (opposite shore)	307	50	.. ..	1½ miles.

GOWAN.

Locality.—Western shore of bay on Saunders Point between entrances to South River and West River. (See Chart No. 3.)

Observed station is 21 feet back from edge of bluff 25 feet high. Two blazed cedar trees stand about 12 yards south of station. Cement monument marking reference station is 11.320 meters west of observed station.

Marks.—Observed station is a nail in a pine stub set flush with ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Thomas Point Light" (N 74° 06′ E)	0	00	00	3 miles.
Nail in blaze on cedar tree (10 inches diameter)	102	41	.. ..	13.02 meters.
Nail in blaze on cedar tree (12 inches diameter)	129	43	.. ..	9.44 meters.
Peak of white house	171	08	.. ..	¼ mile.
REFERENCE STATION	180	13	50	11.32 meters.
South chimney of house	240	12	.. ..	100 yards.

DUTCHMAN.

Locality.—North side of entrance to West River on Dutchman Point between shore of bay and Rhode River. (See Chart No. 3.)

Observed station is on top of a bank 12 feet high and is 10 feet back from the edge. A small lone locust tree stands about 11 yards northwest of station. Cement monument marking reference station is 10.61 meters north of observed station.

Marks.—Observed station is center of a tile pipe with top 6 inches below surface of ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Curtis" (S 29° 37′ E)	0	00	00	1¼ miles.
Peak of wharf house at Nowell Pier	21	34	.. ..	1 mile.
Chimney on small white house	85	17	.. ..	½ mile.
Cupola on large building	137	22	.. ..	1 mile.
Nail in blaze on locust tree (2 inches diameter)	155	03	.. ..	10.25 meters.
Chimney on red-roof house	184	22	.. ..	¼ mile.
REFERENCE STATION	189	50	30	11.61 meters.

CATO.

Locality.—North shore of West River on point at east side of entrance to Rhode River. (See Chart No. 3.)

Observed station is the extreme west end of a low sand point and is awash at high tide. A bank 12 feet high is 75 yards east of station. Cement monument marking reference station is 20.01 meters east-southeast of observed station.

Marks.—Observed station is an auger hole in a pine stub projecting 2 inches above the ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Curtis" (S 35° 25′ E)	0	00	00	.....	1¼ miles.
Peak of wharf house (Nowell Pier)	20	41	..	.....	1 mile.
Chimney on white house (opposite shore)	83	00	..	.....	½ mile.
Cupola on large building	145	34	..	.....	1 mile.
South peak of packing house	161	31	..	.....	1 mile.
Peak of Carr's wharf house	189	57	..	.....	1¼ miles.
Chimney on red-roof house	213	50	..	.....	¼ mile.
REFERENCE STATION	310	52	20	.....	20.01 meters.

DELTA.

Locality.—East shore of Rhode River on point south of entrance to Cadle Creek, about ½ mile north of mouth of Rhode River. (See Chart No. 3.)

Observed station is in a cultivated field about 300 yards southeast of Stiner's house and 15 yards back from edge of a bluff 12 feet high. Cement monument marking reference station is 4.32 meters northeast of observed station.

Marks.—Observed station is an auger hole in a pine stub. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Rhode" (S 26° 42′ W)	0	00	00	.....	¼ mile.
Cupola on large building (opposite shore)	55	11	..	.....	½ mile.
South peak of old packing house (opposite shore)	69	12	..	.....	¼ mile.
Southeast corner of Carr's wharf house	124	31	..	.....	¾ mile.
Chimney on yellow house	149	43	..	.....	¼ mile.
REFERENCE STATION	193	09	10	.....	4.32 meters.
Chimney on red-roof house	280	50	..	.....	300 yards.
Nail in blaze on small locust tree (3 inches diameter)	354	41	..	.....	17.19 meters.

ETNA.

Locality.—East shore of Rhode River, about 400 yards north of mouth to Cadle Creek. (See Chart No. 3.)

Observed station is 6 feet back from edge of a bank 12 feet high and is in front of the second house north of Cadle Creek, which stands about 25 yards northeast of station. Cement monument marking reference station is 5.40 meters northeast of observed station.

Marks.—Observed station is an auger hole in a pine stub projecting 3 feet above the ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Turf" (S 69° 27′ W)	0	00	00	.....	¼ mile.
North peak of Murray's wharf house	14	08	..	.....	1 mile.
West chimney of house	40	18	..	.....	1¼ miles.
Southwest corner of Carr's wharf house	72	05	..	.....	¼ mile.
South chimney on red-roof house	83	31	..	.....	¼ mile.
Northwest corner of picket fence	98	53	..	.....	17.45 meters.
REFERENCE STATION	152	17	20	.....	5.40 meters.
Southwest corner of picket fence	173	00	..	.....	11.85 meters.

CALF.

Locality.—Northern shore of upper Rhode River between Whitemarsh and Waters creeks about ¼ mile west by north of Carr's wharf. (See Chart No. 3.)

Observed station is 25 feet back from edge of a bank 15 feet high. It is abreast of High Island and about 300 yards northwest of the extreme southeast end of a point of land between Whitemarsh and Waters creeks. Cement monument marking reference station is 4.96 meters northeast of observed station.

Marks.—Observed station is a nail in a pine stub flush with ground. Reference station is center point of a triangle on standard cement monument.

References.—	°	′	″	
"Turf" (S 30° 10′ E)	0	00	00	½ mile.
Cupola on large house (opposite shore)	55	07	..	½ mile.
Chimney on small white house (opposite shore)	115	05	..	½ mile.
West chimney on red-roof house (first hill north)	129	25	..	1 mile.
Nail in blaze on pine tree (4 inches diameter)	201	48	..	5.17 meters.
REFERENCE STATION	242	17	20	4.96 meters.
Southwest corner of Carr's wharf	307	46	..	300 yards.
Nail in blaze on small white oak tree (2 inches diameter)	327	30	00	9.15 meters.

TURF.

Locality.—West shore of Rhode River on point at right-angle bend in river and ½ mile south of Carr's wharf. (See Chart No. 3.)

Observed station is on a low marshy point just above high-water mark. A large frame tobacco barn stands about ¼ mile southwest of station. Cement monument marking reference station is 4.83 meters west of observed station.

Marks.—Observed station is a nail in a pine stub. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Etna" (N 69° 27′ E)	0	00	00	¼ mile.
Chimney on white house (opposite shore)	25	47	..	½ mile.
Chimney on red-roof house	58	29	..	1 mile.
Southeast corner of old barn	149	04	..	¼ mile.
Cupola on large building	157	36	..	¼ mile.
REFERENCE STATION	179	49	00	4.83 meters.

CUPOLA.

Locality.—On west side of Rhode River about ¾ mile above its mouth and ¼ mile back from shore. (See Chart No. 3.)

Marks.—Center of spindle on belfry cupola on dark colored frame barn. Bell in cupola under spindle.

References.—None necessary.

RHODE.

Locality.—West shore of Rhode River on point about ½ mile north of its mouth. (See Chart No. 3.)

Observed station is on a low sand point just above high-water mark and about 60 feet west of the extreme east end of point. Cement monument marking reference station is 7.39 meters west of observed station.

Marks.—Observed station is a nail in a pine stub flush with ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Delta" (N 26° 40′ E)	0	00	00	.....	½ mile.
Chimney on red-roof house	31	14	..	.....	¼ mile.
West chimney on red-roof house	146	08	..	.....	1½ miles.
Nail in blaze on twin locust tree (4 inches diameter)	181	59	..	.....	27.57 meters.
Nail in blaze on locust tree (5 inches diameter)	208	14	..	.....	24.25 meters.
REFERENCE STATION	216	02	20	.....	7.39 meters.
Cupola on large building	261	38	..	.....	½ mile.

CHES.

Locality.—North shore of West River on point at west side entrance to Rhode River and about 300 yards east of entrance to Chestons Creek. (See Chart No. 3.)

Observed station is 21 feet back from the edge of a bank 15 feet high. A twin locust stump stands about 2 yards southeast of station. Cement monument marking reference station is 8.71 meters northwest of observed station.

Marks.—Observed station is a nail in a pine stub flush with ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Dutchman" (N 49° 52′ E)	0	00	00	.....	¾ mile.
Chimney on small house (opposite shore)	101	19	..	.....	1 mile.
West chimney on red-roof house (opposite shore)	115	41	..	.....	1 mile.
East chimney on white house (opposite shore)	157	13	..	.....	1 mile.
Chimney on small house	219	35	..	.....	200 yards.
REFERENCE STATION	253	53	30	.....	8.71 meters.

ALPHA.

Locality.—North shore of West River between Scaffold and Chestons creeks and about ¾ mile north of Cedar Point. (See Chart No. 3.)

Observed station is about 10 feet above and 5 feet back from high-water mark. It is about 100 yards east of Scaffold Creek and 200 yards west of a small white shanty. Cement monument marking reference station is 8.26 meters north of observed station.

Marks.—Observed station is an auger hole in a hickory stump. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Cove" (S 1° 21′ E)	0	00	00	.....	¾ mile.
Tangent to Counallor Point	20	57	..	.....	1 mile.
Peak of white house	68	17	..	.....	½ mile.
Nail in blaze on hickory tree (7 inches diameter)	135	00	..	.....	11.33 meters.
Nail in blaze on black oak tree (7 inches diameter)	163	46	..	.....	9.74 meters.
REFERENCE STATION	167	01	00	.....	8.26 meters.
Nail in blaze on black oak	230	15	..	.....	7.58 meters.
West chimney on house (opposite shore)	354	54	..	.....	1 mile.

SHELL.

Locality.—West shore of Upper West River about 300 yards north of entrance to Cox Creek and ½ mile west of Cedar Point. (See Chart No. 3.)

Observed station is on an oyster shell bank about 8 feet above and 3 feet back from high-water mark. Cement monument marking reference station is 11.21 meters northwest of observed station.

Marks.—Observed station is a nail in a pine stub projecting 18 inches above ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Cove" (S 88° 05′ E)	0	00	00	½ mile.
Chimney on small white house (opposite shore)	11	30	..	½ mile.
North chimney on red-roof house (opposite shore)	41	30	..	¾ mile.
West chimney on house belonging to Mr. Lerch (opposite shore)	68	24	..	1 mile.
Nail in blaze on gum tree (2 feet diameter)	120	07	..	10.34 meters.
REFERENCE STATION	200	02	10	11.21 meters.
Nail in blaze on cedar tree (5 inches diameter)	213	52	..	10.60 meters.
Southwest corner of white shanty	298	07	..	1¼ miles.

COUNALLOR.

Locality.—West shore of upper West River about 250 yards north of steamboat wharf at Galesville and on south side of entrance to Cox Creek. (See Chart No. 3.)

Observed station is about 22 feet back from edge of a bluff 12 feet high. An old dead stump stands about 6 feet to the south of station. Cement monument marking reference station is 10.93 meters west of observed station.

Marks.—Observed station is a nail in a pine stub flush with ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Apple" (S 53° 50′ E)	0	00	00	¼ mile.
Lerch's windmill	10	21	..	½ mile.
East chimney on Mr. Hyde's house	50	15	..	¾ mile.
Chimney on Chalk Point wharf house	72	21	..	¼ mile.
Chimney on Galesville wharf	80	20	..	250 yards.
East peak on Wayson's store	112	28	..	250 yards.
REFERENCE STATION	159	27	55	10.93 meters.
Cedar tree	207	40	..	18.25 meters.

CHALK.

Locality.—Upper West River on west side of Chalk Point about ¼ mile southeast of Galesville and 200 yards east of Chalk Point steamboat wharf. (See Chart No. 3.)

Observed station is about 4 feet above and 27 feet back from high-water mark. It is about 8 yards west of a blazed locust tree standing on edge of bank. Cement monument marking reference station is 8.15 meters west of observed station.

Marks.—Observed station is a nail in a pine stub flush with ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Apple" (N 49° 35′ E)	0	00	00	¼ mile.
Lerch's windmill	25	12	..	½ mile.
Nail in blaze on twin locust tree	49	48	..	7.32 meters.
Chimney on yellow house (opposite shore)	67	11	..	¾ mile.
East chimney on Mr. Hyde's house	124	35	..	¼ mile.
REFERENCE STATION	201	59	35	8.15 meters.
Chimney on small yellow house	216	43	..	100 yards.
Chimney on Galesville wharf house	284	27	..	300 yards.

LERCH WINDMILL.

Locality.—Upper West River about ½ mile east of Chalk Point and ¾ mile southeast of Galesville near house of Mr. Lerch.

Marks.—Center of shaft at highest point of windmill.

References.—None necessary.

APPLE.

Locality.—East shore of Upper West River, abreast of Galesville, and about ¾ mile south by west of Cedar Point. (See Chart No. 3.)

Observed station is 28 feet back from edge of bank, 8 feet high. It is about 45 yards east of the southwest corner of V. Hartge's house. Cement monument marking reference station is 7.17 meters east of observed station.

Marks.—Observed station is a nail in a pine stub flush with ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Chalk" (S 49° 35′ W)	0	00	00	.....	¼ mile.
Chimney on Chalk Point wharf house	16	45		.....	¼ mile.
Chimney on Galesville wharf house	40	00		.....	½ mile.
East peak of Wayson's store	41	36		.....	½ mile.
Chimney on store	64	27		.....	½ mile.
Southwest corner of Hartge wharf house	154	38		.....	½ mile.
Apple tree (6 inches diameter)	203	02		.....	7.22 meters.
REFERENCE STATION	236	25	30	....	7.17 meters.
Twin apple tree	294	01		.....	11.40 meters.

COVE.

Locality.—South shore of West River, about ¾ mile northeast of Galesville, on Cedar Point. (See Chart No. 3.)

Observed station is on a low narrow neck of land, about 125 yards from its extreme south end. It is about 6 inches above high-water mark and 5 yards west of a blazed cedar stump. Cement monument marking reference station is 5.41 meters northeast of observed station.

Marks.—Observed station is a nail in a pine stub flush with ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Counallor" (S 47° 00′ W)	0	00	00	.....	¾ mile.
Southwest corner of small shanty (opposite shore)	137	40		.....	¾ mile.
Chimney on white house (opposite shore)	156	41		.....	1 mile.
REFERENCE STATION	171	09	30	.....	5.41 meters.
Nail in blaze on cedar stump (15 inches diameter)	196	03		.....	4.60 meters.
Northwest corner of Hartge wharf house	316	46		.....	350 yards.
Lerch's windmill	318	26		.....	1 mile.

CURTIS.

Locality.—South side of entrance to West River on west side of Curtis Point. (See Chart No. 3.)

Observed station is about 10 feet above and 6 feet back from edge of bank. It is north of entrance to Parish Creek and about 250 yards northwest of a house standing back in the woods. A line of sight was cut through woods in order to see Bloody Point Bar Light. Cement monument marking reference station is about 10.82 meters southeast of observed station.

Marks.—Observed station is a nail in a pine stub flush with ground. Reference station is center point of triangle on standard cement monument.

References.—	′	′	″		
"Dutchman" (N 29° 36′ W)	0	00	00	.....	1¼ miles.
Peak of white house (opposite shore)	25	43		.....	2 miles.
Nail in blaze on gum tree (4 inches diameter)	148	05		.....	13.63 meters.
REFERENCE STATION	156	04	20	.....	10.82 meters.
Nail in blaze on locust tree (5 inches diameter)	197	56		.....	15.65 meters.
South peak of wharf house	273	32		.....	½ mile.
East chimney of yellow house	281	50		.....	¾ mile.

HORSESHOË.

Locality.—On shore of bay about ¼ mile south of eastern edge of Horseshoe Point. (See Chart No. 3.)

Observed station is on low marshy point nearly awash at high tide. It is about 300 yards east of a yellow house with three lightning rods. This house is surrounded by cedar trees. Cement monument marking reference station is 11.24 meters northwest of observed station.

Marks.—Observed station is a nail in a stub set in center of a tile pipe projecting 2 inches above ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Franklin" (S 15° 16′ W)	0	00	00	.....	1½ miles.
South chimney on white house	35	58		.....	½ mile.
Chimney on yellow house	56	53		.....	300 yards.
REFERENCE STATION	91	30	50	.....	11.24 meters.
Chimney on small house	124	05		.....	300 yards.
West chimney of house	131	54		.....	350 yards.

BLOODY POINT BAR LIGHT.

Locality.—Off eastern shore of bay, about 1¼ miles due west of the southernmost point of Kent Island and about ¾ mile west-southwest from mouth of Bloody Point Creek. (See Chart No. 3.)

Marks.—Center point of black lantern on brown caisson structure known as Bloody Point Bar Light.

References.—

"Horseshoe" (N 87° 45′ W) ..... 5¼ miles.

FRANKLIN.

Locality.—Western shore of bay on Franklin Point, about halfway between West River and Herring Bay. (See Chart No. 4.)

Observed station is on low point, covered with tufts of marsh grass, situated between the marsh and shore. It is just above high-water mark and about 80 yards in front of the northeast point of a round grove of small oak trees. Cement monument marking reference station is 6.36 meters northwest of observed station.

Marks.—Observed station is a nail in a pine stub flush with ground. Reference station is center of triangle on standard cement monument.

References.—

	°	′	″		
"Horseshoe" (N 15° 15′ E)	0	00	00	.....	1½ miles.
Black oak tree at southeast point of round grove of trees (12 inches diameter)	217	50		.....	100 yards.
White oak tree abreast of station (2 feet diameter)	248	55		.....	80 yards.
REFERENCE STATION	274	47	40	.....	6.36 meters.
Peak of small white shanty	342	09		.....	¾ mile.
South peak of yellow house back of Horseshoe Point	353	22		.....	1½ miles.

NUT.

Locality.—Western shore of bay, about ¾ miles northeast of mouth of Broadwater Creek. (See Chart No. 4.)

Observed station is on low marshy point, about 50 feet west of its extreme eastern end. A large brick house stands on edge of woods, about ¼ mile northwest of station. Cement monument marking reference station is 13.40 meters northwest of observed station.

Marks.—Observed station is a nail in a pine stub flush with ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Franklin" (N 33° 37′ E)	0	00	00	.....	1¼ miles.
Peak of white barn on south side Broadwater Creek	200	58	..	.....	1½ miles.
REFERENCE STATION	260	28	10	.....	13.40 meters.
North chimney of brick house	273	46	..	.....	¼ mile.
East peak of old barn	330	41	..	.....	¾ mile.
East tangent to grove on Franklin Point	359	00	..	.....	1¼ miles.

BROAD.

Locality.—Western shore of bay, on south side of entrance to Broadwater Creek, on the extreme north end of a narrow neck of land between the creek and the bay. (See Chart No. 4.)

Observed station is about 25 feet back from edge of bank 4 feet high. A number of cedar trees stand 20 yards northwest of station. Cement monument marking reference station is 13.29 meters northwest of observed station.

Marks.—Observed station is a nail in a pine stub flush with ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Nut" (N 43° 14′ E)	0	00	00	.....	1 mile.
North chimney on house across Broadwater Creek	201	21	..	.....	¼ mile.
Chimney on house (opposite shore)	260	24	..	.....	300 yards.
Nail in blaze on cedar tree	..	..	..	.....	21.10 meters.
REFERENCE STATION	264	42	20	.....	13.29 meters.
Nail in blaze on cedar tree on edge of bank (12 inches diameter)	289	07	..	.....	30.25 meters.
East chimney of brown house (opposite shore)	295	19	..	.....	½ mile.

PARKER.

Locality.—Western shore of bay, on north side of entrance to Herring Bay. (See Chart No. 4.)

Observed station is on a small detached sand island south of Parker Island, about 25 yards from the extreme south end and just above high-water mark. Cement monument marking reference station is 5.57 meters north of observed station.

Marks.—Observed station is a nail in a pine stub flush with ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Fairhaven" (S 47° 11′ W)	0	00	00	.....	2 miles.
Chimney on white house	29	03	..	.....	1 mile.
Chimney on small house	63	42	..	.....	¼ mile.
West chimney on small white house	85	21	..	.....	¼ mile.
West chimney on red-roof house	96	43	..	.....	½ mile.
East chimney on red-roof house	115	04	..	.....	¼ mile.
REFERENCE STATION	132	30	10	.....	5.57 meters.

HOPKINS.

Locality.—North side of Herring Bay, on east side of entrance to Herring Creek and about 1½ miles north by west of Fairhaven Wharf. (See Chart No. 4.)

Observed station is 2 feet above and 15 feet back from high-water mark, and is nearly on line with south face of house standing just east of station. Cement monument marking reference station is 5.15 meters northwest of observed station.

Marks.—Observed station is a nail in a stub flush with ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Fairhaven" (S 27° 28′ W)	0	00	00	.....	1¼ miles.
Chimney on small house (opposite shore)	16	25	..	.....	¼ mile.
South chimney on white house (opposite shore)	93	21	..	.....	¼ mile.
South chimney on yellow house (opposite shore)	102	00	..	.....	¼ mile.
REFERENCE STATION	105	44	35	.....	5.15 meters.
West chimney on small white house	124	37	..	.....	150 yards.
Northwest corner of house	172	19	..	.....	16.39 meters.
Southwest corner of house	192	11	..	.....	15.17 meters.

FAIRHAVEN.

Locality.—Western shore of Herring Bay on prominent bold hill about ¼ mile back from shore and ¾ mile west by north of Fairhaven wharf. (See Chart No. 4.)

Observed station is about 25 yards south of a lone chestnut tree 3 feet in diameter and about 100 yards north of highway to Friendship. Cement monument marking reference station is 6.08 meters north of observed station.

Marks.—Observed station is the center of a 4-inch tile pipe with top 8 inches below the surface. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Hopkins" (N 27° 28′ E)	0	00	00	.....	1¼ miles.
Cupola on old Fairhaven Hotel	45	44	..	.....	½ mile.
East chimney on yellow house	51	06	..	.....	½ mile.
West peak of Fairhaven wharf house	98	49	..	.....	1 mile.
Chimney on small house close to shore	113	25	..	.....	½ mile.
Post of rail fence	241	05	..	.....	14.53 meters.
Nail in blaze on lone chestnut tree (3 feet diameter)	346	37	..	.....	25.78 meters.
REFERENCE STATION	351	49	50	.....	6.08 meters.

HOLLAND.

Locality.—Western shore of bay on south side of entrance to Herring Bay about 30 yards west of Holland Point. (See Chart No. 4.)

Observed station is 5 feet back from top of a bank 7 feet high. Two large blazed trees stand south and west of station at distance 12 and 25 yards respectively. Cement monument marking reference station is 12.88 meters southwest of observed station.

Marks.—Observed station is a nail in a pine stub flush with ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Fairhaven" (N 48° 13′ W)	0	00	00	.....	2½ miles.
Nail in blaze on red oak tree (2½ feet diameter)	238	49	..	.....	11.17 meters.
REFERENCE STATION	262	05	00	.....	12.88 meters.
Nail in blaze on red oak tree (2½ feet diameter)	286	55	..	.....	22.63 meters.

REPORT OF THE WORK OF THE COAST AND GEODETIC SURVEY.

INSTRUCTIONS.

The two following letters, together with the laws[a] of the United States relating to the subject, constitute the "instructions" of the representative of the Survey. They are short and definite, but furnish ample authority and leeway for all legitimate development of the cooperation of the Government and the State in the survey of natural oyster bars. The "free hand" permitted by these orders proved very beneficial and was greatly appreciated.

DEPARTMENT OF COMMERCE AND LABOR,
OFFICE OF THE SECRETARY,
Washington, June 2, 1906.

SIR: In reply to your letter of May 28, requesting me to designate officers of the Coast and Geodetic Survey and of the Bureau of Fisheries to cooperate with the State of Maryland in making survey of and locating the natural oyster beds, I have the honor to inform you that Mr. C. C. Yates will be designated to cooperate on the part of the Coast and Geodetic Survey as soon as Congress makes the provisions of the act effective by providing an appropriation for the purpose.

Respectfully,

LAWRENCE O. MURRAY, *Assistant Secretary.*

His Excellency Hon. EDWIN WARFIELD,
Governor of Maryland, Annapolis, Md.

DEPARTMENT OF COMMERCE AND LABOR,
COAST AND GEODETIC SURVEY,
Washington, July 3, 1906.

SIR: Upon the receipt of these instructions you will surrender the command, accounts, etc., of the steamer *Endeavor* to the Hydrographic Inspector. * * *

As soon as this transfer is completed you will enter upon the duties of Coast Survey representative on the Shell Fish Commission of Maryland.

You will consult the commissioners, prepare a programme of work, and submit estimates in the usual form.

You are authorized to come to Washington for consultation from time to time as may be necessary.

* * * * * * *

Very respectfully,

O. H. TITTMANN, *Superintendent.*

Capt. C. C. YATES,
U. S. C. and G. S. Steamer "Endeavor," Baltimore, Md.

HOUSE BOAT "OYSTER."

While arranging to turn over the command of the steamer *Endeavor*, the representative of the Survey, acting under preliminary instructions from the Superintendent, was engaged in frequent consultation with the Shell Fish Commissioners in reference to the programme of future work. In addition to these duties, he undertook for the commissioners the planning and supervision necessary to convert the old side-wheel steamer *Thomas L. Worthley* into a house boat for the surveying parties of both the Commission and the Government.

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[a] For copies of these laws see "Introduction" to this publication.

The *Worthley*, now called the house boat *Oyster*, was in excellent condition when purchased by the Commission. The keelsons and timbers were sound and the upper works strong. After the removal of the old engine and boiler, the house boat was docked and her hull thoroughly examined. The outside planking below the water line was found in good condition, and although it was recalked, it was done as an additional precaution, the hull having been absolutely water-tight from the day of purchase.

The *Oyster* is about 135 feet over all and 35 feet in beam. The main deck contains living quarters for 27 men, the officers mess room and the galley. The upper deck has 11 staterooms, 5 for the 3 commissioners and their 2 hydrographic engineers, 4 for the Coast Survey officers, 1 for the representative of the U. S. Bureau of Fisheries, and 1 for the local county oyster commissioner. Besides these rooms, there are located on this deck a large drafting room, a laboratory for oyster investigations, and an office room. Coal for the two Government launches and the galley is stored in the hold, which also contains fresh-water tanks having a capacity of about 7,000 gallons. Signal lumber is carried on the main deck aft of the officers' mess room.

As a whole, the *Oyster* is plainly and practically equipped for the work to be done. She has added much to the amount of the surveying accomplished during the season, and the Coast and Geodetic Survey representative greatly appreciates the practical advantages furnished to his party by their quarters on the house boat. When the large party of the combined surveying forces is taken into consideration with the limited accommodations usually obtainable on shore, the attending difficulties of a scattered party, the uncertain location and supply of coal and water for launches and sufficient lumber for signals, it is easily to be seen that the amount of work accomplished would have been reduced greatly, if there had been no such house boat as the *Oyster* to supply all requirements of the surveying operations.

With reasonable care and repairs, the *Oyster* will be a valuable asset to the Commission at the completion of the oyster survey of the State, besides having paid her first cost several times over in both quality and quantity of work accomplished.

ORGANIZATION AND EQUIPMENT.

The command of the *Endeavor* was turned over to the hydrographic inspector July 9, 1906, and from that date to the commencement of active field work the Survey representative was engaged on organization of party, collection of surveying data, general supervision of the construction of the house boat, and preparation of field equipment.

Some delay was experienced in completing repairs to the Survey steam launch *Inspector*, and by the difficulties of obtaining surveying assistants who were qualified to receive an appointment under civil-service rules. In fact, the last field assistant did not take his oath of office until the middle of October.

The field organization of the party, when fully completed, remained the same during the season, and was as follows:

C. C. Yates, assistant, Coast and Geodetic Survey, and chief of party.
E. A. Borst, triangulator.
N. L. Arbuckle, topographic draftsman.
F. W. Seth, surveyman and computer.
One launch coxswain.
One launch engineer.
Five seamen and hands.

Later two additional draftsmen, J. D. Torrey and G. C. Moore, were appointed and assigned to duty in the office in Washington, where they were employed on the preparation for publication of the charts of natural oyster bars, making in all a party of six officers from the Coast and Geodetic Survey engaged on the work. During the last weeks of the field work, Mr. Paul C. Whitney, assistant, Coast and Geodetic Survey, was assigned to temporary duty in the party in place of Mr. E. A. Borst, who resigned.

The equipment of the party, in addition to the quarters and accommodations on the house boat *Oyster*, consisted of the large Coast and Geodetic Survey steam launch *Inspector*, an excellent whaleboat, a large ship's cutter, and a fishing dory. The Survey also furnished a complete outfit of theodolites, levels, sextants, and other instruments necessary for the work of the Government and State surveying parties, and the usual outfit of tools, sails and oars, stationery, etc.

FIELD WORK.

The launch *Inspector* and outfit were moved to Annapolis on August 10, 1906, on which date the actual field work of the Coast and Geodetic Survey party commenced.

Previous to this time a number of signals had been erected over old Coast and Geodetic Survey triangulation stations on the Severn River by the hydrographic engineer of the Commission. By using the triangulation so established, considerable oyster bar location was accomplished.

After the arrival of the Coast Survey party, the erection of signals and the observations of horizontal angles necessary to establish a framework of triangulation were kept well ahead of the oyster bar locations and other oyster investigations.

The methods of triangulation were those established by the Coast and Geodetic Survey and require no explanation other than that given by the publications of the Survey.

In all there are 123 triangulation stations involved in the survey of Anne Arundel County natural oyster bars. These stations are scattered along the western shore line of the bay from Fort Carroll to Holland Point, and are located at intervals frequently less than a half and rarely more than a mile apart. The triangulation was carried on with energy and good judgment, but the scattered condition of the work, composed of a mixture of new and old stations, increased the number of observations without the usual proportionate increase in number of new stations established.

After the appointment of a topographic draftsman on September 19, all boat sheets for both the hydrographic and oyster investigation parties were prepared and much other drafting work was done to facilitate the operations of the commissioners. Besides this work, the draftsman checked the computations and kept up the smooth projections as far as the new field work permitted.

Considerable difficulty was experienced in bringing up the computations to the immediate requirements of the work, especially in West River and to the south along the shore of the bay, where practically all old triangulation stations had been washed away. This situation was much relieved by the appointment of a surveyman on October 15, who had received some training in the computing division of the Survey at Washington.

The operations in the vicinity of Severn and South rivers were completed September 13, when the house boat *Oyster* was moved to West River. Up to this time the party had lived on shore and suffered many of the resulting inconveniences and delays due to scattered lodgings, uncertain meal hours, etc. The advantages of the house boat were immediately shown in the results, and in spite of much bad weather the work in the vicinity of West River was completed and the *Oyster* moved to Magothy River on November 9. Here the house boat remained until the end of the month, when she was moved to Bodkin Creek. On December 9 the main body of the field work for the season was completed and the *Oyster* went to Annapolis for the winter. Quarters were taken up on shore, the parties reduced in number, and offices established in the state house.

During the following winter the unfinished ends of triangulation, construction and planting of permanent monuments, and new descriptions of stations, occupied about a third of the time of the triangulator.

Besides the training and assistance required by an entirely new organization, and the systematizing of a new class of work, the representative of the Coast and Geodetic Survey devoted much time and took much interest in the work of the Commission in general as affecting both the surveying and other operations of the oyster-culture laws of Maryland.

OFFICE WORK.

After October 15, a greater part of the original computations were made by the surveyman of the party and were checked by the triangulator and the topographic draftsman. This work included the computations of 166 triangles, 67 geodetic positions, and 1,083 back computations of geodetic positions required for the technical descriptions of the boundaries of natural oyster bars. These computations, together with the making out of the abstract of horizontal angles, the lists of geographic positions, the lists of directions, and the reduction to center for 8 eccentric stations, make up a creditable amount of computation for the short season's work.

The drafting consisted of the preparation of nearly all boat sheets used by the hydrographic and oyster-investigation parties, the construction of 9 projection sheets, and the plotting of 2,596 sextant positions on the projections. Besides this drafting, the progress map was prepared for the lithographer, the boundaries of 91 natural oyster bars were plotted on the projections, the geographic positions of 361 corners of bars were scaled off the sheets, and 1,083 distances to landmarks from corners of bars taken off the projections for use in checking computations. This work was done neatly and accurately, and represents a larger amount of labor than this statement would indicate.

The great amount of necessary work required to prepare for publication the 4 large scale charts of the natural oyster bars and the report containing the description of boundaries and landmarks to accompany charts, can be seen from an inspection of the charts and reports.

SUMMARY.

The results obtained from the work of the Coast and Geodetic Survey in cooperation with the Maryland Shell Fish Commission need no other summary than is indicated by the published charts of the natural oyster bars and the scheme of

projections and triangulation shown on the progress map at the end of this report.

The work completed will stand the test of time, and it will be recognized ultimately that both time and money have been saved by having the work done systematically and accurately.

The geographic positions of the permanent landmarks and signals have been determined with the usual precision of a trigonometric survey, and their locations at all points necessary to provide ample foundation for the surveying and charting operations permitted great accuracy of definition and location for the natural oyster bar and other boundaries established. At the same time, the very important element of permanency of the positions of boundaries has been secured, as the relocation of geodetic positions can always be accomplished by a competent surveyor, even though the original landmarks and monuments have been washed away, as has been the fate of hundreds of such points established by the Coast and Geodetic Survey on the shores of the Chesapeake Bay during the last sixty-five years.

Before ending this report the representative of the Coast and Geodetic Survey deems it both desirable and natural to make a statement of appreciation of the ever courteous actions of everyone connected with the Maryland Shell Fish Commission[a] and of his colleague[b] from the Department of Commerce and Labor. This excellent relationship made true cooperation possible and aided greatly in the successful accomplishment of much work.

[a] Walter J. Mitchell, chairman, Dr. Caswell Grave, secretary, Benjamin K. Green, treasurer, commissioners; Thomas H. Robinson, counsel; Swepson Earle, hydrographic engineer; W. Gibson Emory, assistant engineer; Joseph E. Smith, local oyster commissioner for Anne Arundel County; H. Courtney Jenifer, chief clerk; Samuel A. Harper, clerk; Ernest Reppenhagen, draftsman.

[b] Dr. H. F. Moore, scientific assistant in the U. S. Bureau of Fisheries.

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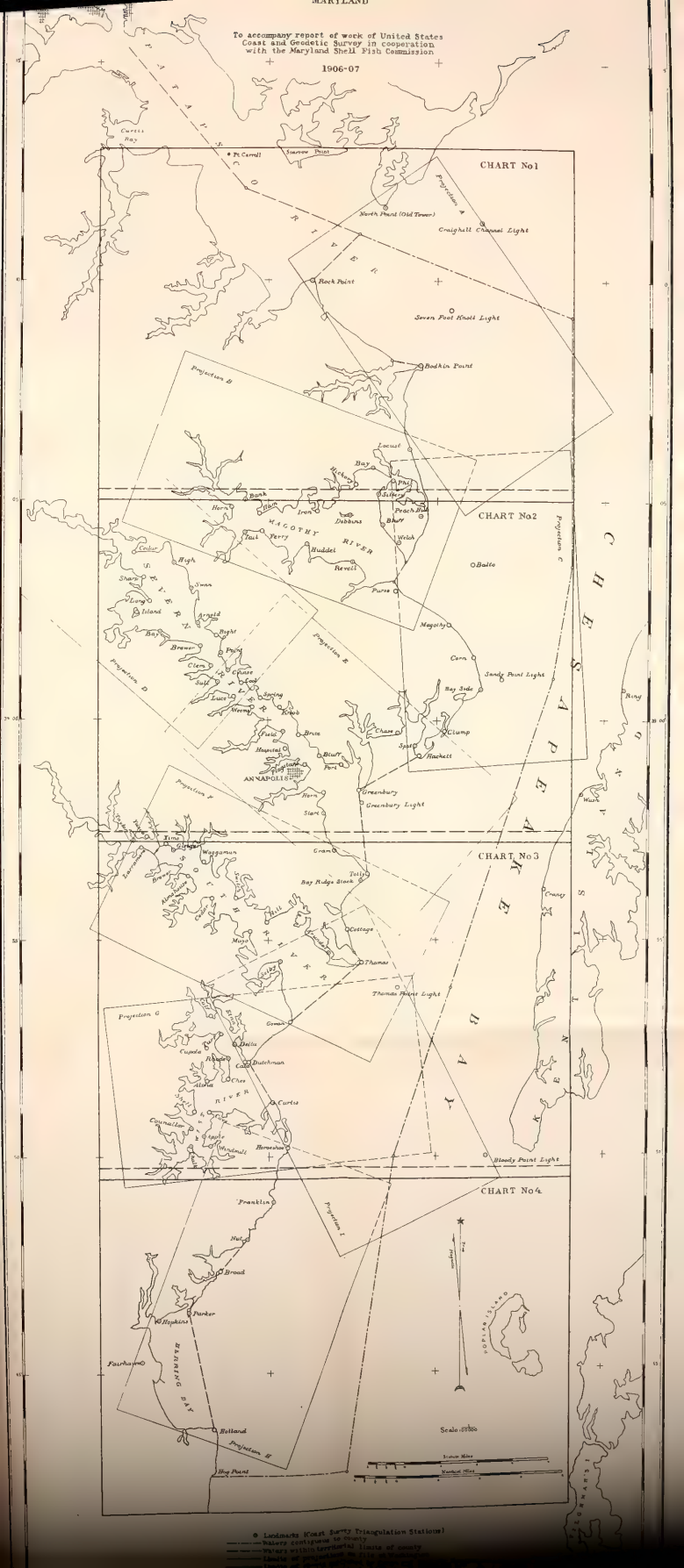
MARYLAND

To accompany report of work of United States Coast and Geodetic Survey in cooperation with the Maryland Shell Fish Commission

1906-07



DEPARTMENT OF COMMERCE AND LABOR
COAST AND GEODETIC SURVEY
O. H. TITTMANN, Superintendent

SURVEY OF OYSTER BARS

BALTIMORE COUNTY
MARYLAND

DESCRIPTION OF BOUNDARIES AND LANDMARKS AND
REPORT OF WORK OF UNITED STATES COAST
AND GEODETIC SURVEY IN COOPERATION
WITH UNITED STATES BUREAU OF
FISHERIES AND MARYLAND
SHELL FISH COMMISSION

By C. C. YATES
CHIEF OF COAST AND GEODETIC SURVEY PARTY
ASSISTANT, COAST AND GEODETIC SURVEY

WASHINGTON
GOVERNMENT PRINTING OFFICE
1911

LETTER OF SUBMITTAL.

DEPARTMENT OF COMMERCE AND LABOR,
COAST AND GEODETIC SURVEY,
Washington, August 10, 1911.

SIR: I have the honor to transmit herewith a report of the officer detailed from the Coast and Geodetic Survey to cooperate with the Bureau of Fisheries and the Maryland Shell Fish Commission in surveying the oyster bars of the State of Maryland, together with certain technical results which are necessary for the interpretation and use of the plats of the survey made by the Government.

This work has been done under the provisions of the act of Congress entitled "An act to authorize the Secretary of Commerce and Labor to cooperate, through the Bureau of the Coast and Geodetic Survey and the Bureau of Fisheries, with the shell fish commissioners of the State of Maryland in making surveys of the natural oyster beds, bars, and rocks in the waters within the State of Maryland," approved May 26, 1906, and of the acts of Congress making appropriations for sundry civil expenses of the Government for the fiscal years ending June 30, 1907, 1908, 1909, 1910, 1911, and 1912.

Respectfully,

O. H. TITTMANN, *Superintendent.*

To Hon. CHARLES NAGEL,
Secretary of Commerce and Labor.

CERTIFICATION.

BALTIMORE, MD., *August 10, 1911.*

The following publication is certified to contain correct technical descriptions of all boundaries and landmarks established in Baltimore County by the Maryland Shell Fish Commission in cooperation with the United States Coast and Geodetic Survey.

C. C. YATES,
Chief of Coast and Geodetic Survey Party,
Assistant, Coast and Geodetic Survey.

BALTIMORE, MD., *August 10, 1911.*

Examined and certified to be correct.

WALTER J. MITCHELL,
CASWELL GRAVE,
BENJAMIN K. GREEN,
Maryland Shell Fish Commission.
SWEPSON EARLE,
Hydrographic Engineer.

NOTE.—Certified copies of this publication and of the charts of the natural oyster bars of Baltimore County were filed in the office of the clerk of the circuit court of Baltimore County and in the office of the board of shell fish commissioners on August 10, 1911.

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SURVEY OF OYSTER BARS, BALTIMORE COUNTY, MD.

INTRODUCTION.

PUBLICATIONS.

The preparation of publications relating to the survey of the oyster bars of Maryland has been divided between the Government and the State in accordance with the laws[1] authorizing the work and the natural division of the surveying operations[2] of the cooperating forces.

The publications prepared and issued by the Government under the direction of the Superintendent of the Coast and Geodetic Survey consists of a series of charts and a technical report for each county surveyed.[3] The charts show all legal boundaries of oyster bars within the adopted boundaries of the waters opened up for leasing with each county, and the location of all landmarks (Coast and Geodetic Survey triangulation stations) used as a foundation for the delineation of these various boundaries. The technical report gives technical and legal description of all oyster bar and other boundaries, and descriptions of all landmarks shown on the charts, and includes the report of the representative of the Coast and Geodetic Survey in charge of the work of that service in cooperation with the Bureau of Fisheries and the Maryland Shell Fish Commission. These charts and technical reports are prepared and certified for file with the courts and the commission, as required by the laws of the State, and contain all information necessary to make a permanent record of the work of the commission and the Government for all future requirements of the courts, or for any resurveys that may become necessary.[4]

The publications prepared and issued by the State under the direction of the Shell Fish Commission consist of annual reports[5] of all the operations of the commission performed under the provisions of the laws of Maryland,[6] including results of biological

[1] See Appendix A for laws relating to the cooperation of the Coast and Geodetic Survey and Bureau of Fisheries with the Maryland Shell Fish Commission.

[2] See Appendix C for a summary of the particular surveying operations which constitute an "oyster survey" as now being carried on in Maryland.

[3] These charts and technical reports can be obtained by application to the Superintendent of the Coast and Geodetic Survey at Washington, D. C. The publications now ready for issue are those for Anne Arundel, Somerset, Wicomico, Worcester, Calvert, Charles, St. Marys, and Baltimore Counties.

[4] The technical records and charts for each county are published separately on account of the requirements of the oyster culture laws of the State and the practical considerations which make it desirable to have each county "opened up" for oyster culture as soon as practicable after the completion of its survey. For these reasons and the fact that these reports are each arranged for distribution and use in one county only without reference to other published records, much of the text of this publication is of necessity identical with similar previous publications for other counties.

[5] These reports can be obtained by application to the Shell Fish Commission, Marine Bank Building, Baltimore, Md. They are issued annually in October, and the first and second reports are now available for distribution.

[6] See Appendix B for an extract from the "Second Report of the Maryland Shell Fish Commission," giving a concise summary of the "Haman oyster-culture law."

and economic oyster investigations, methods and results of the hydrographic survey of the boundaries of oyster bars and crab bottoms, the administrative report and financial statement of the commission, information relating to oyster culture, methods of surveying and leasing of oyster lots, and much other important matter of legal and scientific value.

These two sets of publications are planned and arranged to supplement each other without unnecessary duplication, and when combined they form a complete report of operations, methods, and results of the work of both the Government and State.[1]

COOPERATION OF THE COAST AND GEODETIC SURVEY.

The work of the Coast and Geodetic Survey, as the name of the service indicates, includes a survey of the coasts of the United States made on a geodetic basis. This has involved the gradual construction of a great framework of interstate triangulation for use as a foundation for detail hydrographic and topographic surveys, from which there has been compiled and published a complete set of charts of the coasts of the United States, including all waters of Maryland where oysters grow. This existing triangulation, hydrography, and topography is essential as a foundation for a correct and practical survey of natural oyster bars; and it being one of the fundamental functions of the Coast and Geodetic Survey to furnish such data, the cooperation of the Coast and Geodetic Survey with the Bureau of Fisheries and the Maryland Shell Fish Commission is a practical and natural development of Government work leading to the conservation and increase of the supply of food.

COOPERATION OF THE BUREAU OF FISHERIES.

The Bureau of Fisheries has cooperated with the Coast and Geodetic Survey and the Maryland Shell Fish Commission principally as an adviser in matters relating to the biological and economic survey of oyster bars and the methods to be employed for that purpose.[2] A steam launch, rowing boat, and certain apparatus have also been furnished.

The primary function of the Bureau of Fisheries is to increase the productiveness of marine and fresh waters by such measures as may be best suited to the purpose, and the services rendered in connection with the survey of the oyster bars of Maryland are strictly in line with the fundamental law under which it acts. In certain States other than Maryland similar work has been conducted by the bureau acting independently, the same ends being attained at greater expense to the Government.

GENERAL STATEMENT OF WORK OF COAST AND GEODETIC SURVEY.[3]

The results obtained from the work of the Coast and Geodetic Survey in cooperation with the Bureau of Fisheries and the Maryland Shell Fish Commission need very little other summary than is indicated by the published "Charts of Natural Oyster Bars" and the index of hydrographic projections and triangulation stations shown on the county progress maps attached to each report.

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[1] See Appendix D of this publication for "Statistics of results of combined operations of the Government and State."

[2] Hon. George M. Bowers, Commissioner of Fisheries, has detailed for this service Dr. H. F. Moore, Assistant, Bureau of Fisheries.

[3] For a detail statement of the very large amount of excellent oyster-survey work of the Maryland Shell Fish Commission see the "Annual Reports of the Maryland Shell Fish Commission."

The triangulation has been carried on in accordance with the standard methods of the Coast and Geodetic Survey, making this work and that of the "Descriptions of Triangulation Stations" of permanent value, not only to the State of Maryland in the survey of her oyster bars but also to the Government for any future work it may do in the regions covered by the oyster-survey operations.

The hydrographic projections and published charts are prepared with all the accuracy permitted by their large scale, especially as to the boundaries of the various shell-fish bottoms in relation to landmarks, but this accuracy of location on the charts is further added to and permanently fixed by published technical descriptions which should minimize the probability of any future dispute as to either landmarks or boundaries.

Stated another way, and quoting from the report of the "Survey of Oyster Bars of Anne Arundel County":

> The geographic positions of the permanent landmarks and signals have been determined with the usual precision of a trigonometric survey, and their locations at all points necessary to provide ample foundation for the surveying and charting operations permitted great accuracy of definition and location for the natural oyster-bar and other boundaries established. At the same time, the very important element of permanency of the positions of boundaries has been secured, as the relocation of geodetic positions can always be accomplished by a competent surveyor, even though the original landmarks and monuments have been washed away, as has been the fate of hundreds of such points established by the Coast and Geodetic Survey on the shores of the Chesapeake Bay during the last 65 years.

REPORT OF THE WORK OF THE COAST AND GEODETIC SURVEY IN BALTIMORE COUNTY.

INSTRUCTIONS.

The following letters, together with the laws [1] of the United States relating to the subject, constitute the "instructions" received by the chief of the Coast and Geodetic Survey party engaged on work in connection with the Maryland Shell Fish Commission. They are short and definite, but furnish ample authority and leeway for all legitimate development of the cooperation of the Government and the State in the survey of oyster bars. The "free hand" permitted by these orders, together with the aid and many valuable suggestions received from the officers of the survey at Washington, have proved very beneficial to the work and are greatly appreciated:

DEPARTMENT OF COMMERCE AND LABOR,
OFFICE OF THE SECRETARY,
Washington, June 2, 1906.

SIR: In reply to your letter of May 28, requesting me to designate officers of the Coast and Geodetic Survey and of the Bureau of Fisheries to cooperate with the State of Maryland in making survey of and locating the natural oyster beds, I have the honor to inform you that Mr. C. C. Yates will be designated to cooperate on the part of the Coast and Geodetic Survey as soon as Congress makes the provisions of the act effective by providing an appropriation for the purpose.

Respectfully,

LAWRENCE O. MURRAY, *Assistant Secretary.*

His Excellency Hon. EDWIN WARFIELD,
Governor of Maryland, Annapolis, Md.

DEPARTMENT OF COMMERCE AND LABOR,
COAST AND GEODETIC SURVEY,
Washington, July 3, 1906.

SIR: Upon the receipt of these instructions you will surrender the command, accounts, etc., of the steamer *Endeavor* to the Hydrographic Inspector * * *.

As soon as this transfer is completed you will enter upon the duties of Coast Survey representative on the Shell Fish Commission of Maryland.

You will consult the Commissioners, prepare a program of work, and submit estimates in the usual form.

You are authorized to come to Washington for consultation from time to time as may be necessary.

* * * * * * * * *

Very respectfully,

O. H. TITTMANN, *Superintendent.*

Capt. C. C. YATES,
U. S. C. & G. S. Steamer "Endeavor," Baltimore, Md.

ORGANIZATION AND EQUIPMENT.

The personnel and occupation of the party of the Coast and Geodetic Survey have remained practically unchanged since the beginning of the "oyster survey." Besides

[1] For these laws see Appendix A.

the chief of party, it consists of the necessary triangulators, computers, draftsmen, and temporary employees required to carry on both the surveying operations in the field and the preparation for publication of oyster charts and technical records in the office at Washington.

The equipment for the work of the party has been ample and satisfactory. The large living and office quarters furnished the Government on the Maryland Shell Fish Commission house boat *Oyster* have been very convenient for the work, besides facilitating efficient cooperation with the surveying and oyster investigation parties of the State. In addition to the accommodations on the *Oyster*, the Coast and Geodetic Survey party has had the constant use of the large steam launch *Inspector* and several other boats furnished by its own service, and the occasional use of the Bureau of Fisheries launch *Canvasback* [1] and the steamer *Governor McLane* [2] of the State fishery force.

The greater part of the equipment of instruments for the operations of both the Government and State has been furnished by the Coast and Geodetic Survey and consists of all necessary theodolites, levels, sextants, drafting instruments, hydrometers, etc., required for all field and office work.

CHRONOLOGICAL STATEMENT OF WORK.

The field work of the Coast and Geodetic Survey in Baltimore County [3] dates from April 14, 1909, when the Maryland Shell Fish Commission house boat *Oyster* was moved from her winter quarters in Baltimore to an anchorage off Rock Hall Landing in Kent County. The surveying operations carried on from this harbor covered a period of about six weeks, when practically all the triangulation of the Chesapeake Bay shores of both Baltimore and Kent Counties was completed.

On May 26, 1909, the *Oyster* was moved from Rock Hall Landing to near Cliffs Landing in the upper part of Chester River, and no further work was done in Baltimore County from that date to July 22, 1909, when the anchorage of the *Oyster* was changed back to Rock Hall to complete some unfinished details of the oyster survey work in that vicinity.

On August 5, 1909, the house boat was again moved, this time to Worton Creek, the extreme northern limit of oyster growth in Chesapeake Bay. From this harbor all the remaining oyster survey work of the Coast and Geodetic Survey in both Baltimore and Kent Counties was completed, although some weeks later a party of the Maryland Shell Fish Commission returned to finish certain oyster investigations and hydrographic observations in these waters.

The office work connected with the oyster survey of Baltimore County, including compilations and drafting necessary for the preparation for publication of the oyster charts and the technical records, was continued intermittingly with the office work of other counties from the beginning of the field work in Baltimore County to the time of filing of the certified oyster charts and technical reports in the archives of the Commission and with the clerk of the circuit court of Baltimore County on August 10, 1911.

[1] By courtesy of Dr. H. F. Moore, United States Bureau of Fisheries.

[2] By courtesy of Capt. James A. Turner, commanding.

[3] The field work of Baltimore and Kent Counties was so intermixed in Chesapeake Bay that the chronological statement of work for one of these counties necessarily includes a considerable part of the work of the other county.

STATISTICS.[1]

Landmarks and triangulation signals erected	6
Monuments planted to mark triangulation stations	6
Triangulation stations occupied for observations of horizontal angles	3
Old triangulation stations recovered	14
New triangulation stations established	1
Total old and new triangulation stations marked and described	15
Linear miles of shore line covered by triangulation (approximate)	12
Square miles covered by triangulation (approximate)	50
Hydrographic projections prepared and completed as records of oyster boundaries	4
Triangles computed	8
Geographic positions computed	1
Corners of oyster boundaries established by computation	13
Back azimuths and distances computed from corners of boundaries to triangulation stations	39
Descriptions of triangulation stations prepared for publication	15
Descriptions of oyster boundaries prepared for publication	3
"Charts of Natural Oyster Bars" prepared for publication	1
Progress map prepared for publication	1

GENERAL REMARKS.

Before ending this report the representative of the Coast and Geodetic Survey wishes to renew his statement of appreciation of the courteous assistance received from various Government and State officials and others interested in the oyster industry of Maryland, especially to the following:

To his colleague from the Department of Commerce and Labor, Dr. H. F. Moore, of the Bureau of Fisheries, whose well-known scientific knowledge of all matters relating to oysters has been of great value to the work.

To Mr. Walter J. Mitchell, chairman of the Maryland Shell Fish Commission, who, by his administrative ability in carrying out the complicated requirements of the oyster laws and by his unfailing tact, has made the cooperation of the various services engaged on the work both agreeable and effective.

To Dr. Caswell Grave, secretary of the commission, who, as editor of the commission's annual report and commissioner in charge of the biological and economic oyster investigations, has been brought into constant contact with the Government work and aided its operations in every way.

To Mr. Benjamin K. Green, treasurer of the commission, who has looked after the equipment and commissary of the house boat in such a way as to add greatly to the comfort and convenience of the party of the Coast and Geodetic Survey.

To Mr. Swepson Earle, hydrographic engineer to the commission, whose knowledge of the work from former service in the Coast and Geodetic Survey has greatly facilitated his practical use of the technical data furnished by the Government.

And to the many others connected with the commission or who as residents in the locality where the work was being carried on have greatly assisted by furnishing important information or willing services.

[1] These statistics only include field and office work directly performed by the party of the Coast and Geodetic Survey in connection with the oyster survey of Baltimore County, and do not include the many thousands of soundings and examinations of the character of the bottom made by the engineers of the commission, which are of considerable value to the Coast and Geodetic Survey as hydrographic records for future use in connection with the preparation of new editions of charts of the waters of Maryland. See Appendix D of this publication for "Statistics of results of combined operations of the Government and the State."

CHARTS AND MAPS.[1]

CHARTS OF NATURAL OYSTER BARS.

The chart of the natural oyster bars of Baltimore County, published by the Coast and Geodetic Survey from results of surveys of the Government in cooperation with the Maryland Shell Fish Commission, covers that portion of the upper Chesapeake Bay and tributaries in Baltimore County in which the waters are sufficiently salt for the growth of oysters. This chart is published on a scale of 1 part in 20,000 (approximately $3\frac{1}{6}$ inches to a statute mile). It is constructed on a polyconic projection and is based on the United States standard datum of the Coast and Geodetic Survey.

This chart shows all oyster bars and other boundaries established by the commission, and is certified for the purpose of filing in the office of the clerk of the circuit court of Baltimore County and in the office of the Maryland Shell Fish Commission, as required by the oyster laws of Maryland.

In addition to the oyster bar and other boundaries, the "Maryland Oyster Charts" show the location and name of all landmarks (United States Coast and Geodetic Survey triangulation stations) used in making the survey, together with the hydrography and topography necessary to make the technical definitions and delineations of boundaries readily understandable both by the people engaged in the oyster industry and the general public who may become interested through leasing of barren bottoms for oyster culture.[2]

The names of the oyster bars are those used locally, as nearly as could be ascertained by the hydrographic engineer of the commission. When there was no local name in common use, a name was selected from one of the prominent features of the vicinity. By the use of recognized names or those that would naturally suggest certain sections of water, it is believed that much confusion will be avoided in the location on the charts of the oyster bars, especially by those not familiar with the use of maps.

The corners of the oyster bars are numbered from 1 to the total number of corners in each area under consideration. Where boundaries adjoin, making one point a corner of two or more oyster bars, these points have two or more numbers, each number corresponding to the bar in which the figure is located. The numbers of the corners correspond with the technical and legal descriptions of this publication under the heading "Boundaries of natural oyster bars."

The landmarks and oyster bars have been grouped in the "Contents" of the Coast and Geodetic Survey oyster survey publication in accordance with the charts upon which they are shown. To find a particular oyster bar or landmark which is only known by name, consult the "Contents" and the desired chart and general location will be

[1] These charts can be obtained by application to the Superintendent of the Coast and Geodetic Survey, at Washington, D. C.

[2] Much of the detail of the inshore topography was obtained from the excellent map of Baltimore County, prepared and published by the Maryland Geological Survey under the direction of Dr. William Bullock Clark from surveys of the Maryland Geological Survey in cooperation with the U. S. Geological Survey.

indicated. To find the name of a bar or landmark which is only known by location, consult the progress map at the end of the publication for the number of the chart on which it is to be found, and then examine the known locality on the chart for the name of the bar or landmark in question.

The contours on the charts showing the depth of water at mean low tide have been taken from the hydrographic sheets of former work of the Coast and Geodetic Survey. Four curves were selected as being the most convenient for taking off from the original hydrographic sheets and the ones of greatest value to those interested in shellfish industries. The 1-fathom contour (6 feet) and the 5-fathom curve (30 feet) correspond in a general way to the inner and outer limits of all the oyster bars surveyed. The 3-fathom contour (18 feet) furnishes the curve of about the average depth of water on the oyster bars and the 10-fathom contour (60 feet) serves in a general way to indicate the outer limits of probable oyster culture.

The boundaries of the waters within the "territorial limits of the county" and the boundaries of the "waters contiguous to the county" opened up for the leasing with each county are plainly indicated on the charts. A full technical description of these boundaries is given in this publication under the heading "Boundaries of county waters."

The areas in acres of the oyster bars were determined under the direction of the hydrographic engineer of the commission by two independent planimeter measurements of the areas as delineated on the smooth projections of the Coast and Geodetic Survey. These areas are given in small figures in parentheses on the face of the chart within the boundaries of the different shellfish bottoms.

The symbols used on the charts for the different kinds of boundaries, triangulation stations, contours of depth of water, etc., require no other explanation than that given in the legend and other notes on the face of the charts.

LEASING CHARTS.

The leasing charts of Baltimore County, like those for Anne Arundel, Somerset, Wicomico, Worcester, Calvert, Charles, and St. Marys counties, have been prepared under the direction of the hydrographic engineer of the commission. These charts are constructed on polyconic projections and are based on the United States standard datum of the Coast and Geodetic Survey. They are made on the scales of 1 part in 5,000, or 1 part in 10,000, as the needs of oyster culture may require. Anne Arundel County required 13 leasing charts; Somerset County, 12 charts; Wicomico County, 2 charts; Worcester County, 3 charts; Calvert County, 5 charts; Charles County, 2 charts; St. Marys County, 8 charts; and Baltimore County, 1 chart, to cover their oyster bottoms.

These charts show all the oyster bars, crab bottoms, and clam beds and other boundaries established by the commission, and also all boundaries of oyster lots leased for the purpose of oyster culture, thus making them comprehensive and valuable records of the results of the operations of the oyster-culture laws.

The lots leased under the provision of the "old 5-acre law" are frequently of irregular shape, but the lots leased under the provision of the new oyster laws must be of rectangular shape by the terms of that act. For this latter purpose the leasing charts have been divided by parallels of latitude and meridians of longitude into small rectan-

gles of 1 acre or 5 acres, as may be best suited to the area under consideration, and prospective leaseholders by the rules of the commission are compelled to select whole rectangles as far as possible.

For reasons of the present changeable nature of the number of lots leased and the large number of charts required, the leasing charts are not likely to be published for some years, but they can be seen at any time on file at the offices of the commission, in the Marine Bank Building at Baltimore.

PROJECTIONS.

The polyconic projections [1] covering Baltimore County waters are four in number and on the scale of 1 part in 10,000. They were constructed by draftsmen of the Coast and Geodetic Survey, but the sextant positions which determine the location of the legal boundaries of the oyster bars as delineated by the Shell Fish Commission were plotted by the draftsman of the commission.

A copy of each of these projections, with all the plotted positions of triangulation stations, shore line, sextant positions, and boundaries of oyster bars, was made under the direction of the hydrographic engineer of the commission by pricking through with a sharp needle the intersections of the projection lines and all other points as plotted on the original sheets.

These projections (in duplicate) are the original records of all oyster-bar and other boundaries established by the commission, one set being filed in the archives of the Coast and Geodetic Survey, at Washington, and the other set in the archives of the Shell Fish Commission.

PROGRESS MAPS.

The progress map to be found at the end of this publication is on a scale of 1 part in 100,000, and shows in outline the work accomplished by the United States Coast and Geodetic Survey in Baltimore County and contiguous waters. It gives the scheme of all the charts and smooth projections constructed in connection with the survey, the location and names of all triangulation stations used as a basis for the surveying work, and the "boundaries of county waters" established by the commission for the purpose of carrying out the laws of Maryland relating to oyster culture.

Besides indicating the amount of work done by the Coast and Geodetic Survey in connection with the work of the Shell Fish Commission, this progress map will be of special value for index purposes to engineers and others searching for the particular chart or projection covering the locality of the oyster bars or landmarks that may be under consideration.

The progress maps [2] accompanying the first and second annual reports of the Maryland Shell Fish Commission were prepared under the direction of the hydrographic engineer of the commission. They are on the scale of 1 part in 400,000, and show the outline of the tide-water counties of Maryland, with shaded areas to indicate the waters already covered by the operations of the oyster survey.

[1] For the scheme of these projections see the progress map at the end of this publication.

[2] These maps and reports can be obtained by application to Maryland Shell Fish Commission, Marine Bank Building, Baltimore, Md.

BOUNDARIES OF THE COUNTY WATERS.[1]

WATERS WITHIN TERRITORIAL LIMITS OF COUNTY.

The laws of Maryland relating to oyster culture provide that "no person shall be permitted, by lease, assignment, or in any other manner, to acquire a greater amount of land than ten acres situated within the territorial limits of any of the counties, or one hundred acres in any other place."

The boundary line[2] between the waters "within the territorial limits" of Baltimore County and the waters in "any other place," as established by the Shell Fish Commission for the purpose of carrying out the oyster laws, and delineated on the "oyster" charts and the smooth projections of the Coast and Geodetic Survey, is technically described and defined as follows:

Following the boundary line in the middle of Gunpowder River between Baltimore and Harford counties to a point at the intersection of this boundary with a straight line between the northeastern end of Millers Island and the southwestern end of Sprys Island defined by latitude 39° 16′ 58.8″ and longitude 76° 20′ 10.0″; thence in a straight line across a part of the waters of the mouth of Gunpowder River to a point on the northeastern end of Millers Island defined by latitude 39° 15′ 51.6″ and longitude 76° 21′ 09.0″; thence along the mean low-water line of the Chesapeake Bay shore of Millers Island or a line across the mouth of all inlets less than 100 yards in width, as the case may be, to a point on the southwestern end of Millers Island defined by latitude 39° 15′ 19.5″ and longitude 76° 22′ 51.9″; thence in a straight line across the waters and small marsh islands between Millers Island and Hart Island to a point on the northeastern end of Hart Island defined by latitude 39° 15′ 08.5″ and longitude 76° 22′ 18.0″; thence along the mean low-water line of Chesapeake Bay shore of Hart Island or a line across the mouth of all inlets less than 100 yards in width, as the case may be, to a point on the southwestern end of Hart Island defined by latitude 39° 13′ 47.5″ and longitude 76° 23′ 46.0″; thence in a straight line across the waters between Hart Island and the mainland to a point on the mainland of Baltimore County defined by latitude 39° 13′ 45.5″ and longitude 76° 23′ 56.8″; thence along the mean low-water line of the Chesapeake Bay shore of Baltimore County or a line across the mouth of all inlets less than 100 yards in width, as the case may be, to a point on the northeastern side of the entrance to Shallow Creek defined by latitude 39° 12′ 15.3″ and longitude 76° 25′ 57.4″; thence in a straight line across the mouth of Shallow Creek to a point on the southwestern side of the entrance to Shallow Creek defined by latitude 39° 12′ 11.1″ and longitude 76° 26′ 12.4″; thence along the mean low-water line of the Chesapeake Bay shore of Baltimore County or a line across the mouth of all inlets less than 100 yards in width, as the case may be, to a point located on North Point at the extreme southern end of Baltimore County defined by latitude 39° 11′ 43.8″ and longitude 76° 26′ 34.2″; thence in a straight line to a point located in Chesapeake Bay about 150 yards offshore on the foundation of an old stone lighthouse tower defined by latitude 39° 11′ 39.2″ and longitude 76° 26′ 31.4″; thence in a straight line across a part of the waters of the mouth of Patapsco River to a point defined by the intersection of the center line of Brewerton Channel and a straight line between "North Point (Old Tower Foundation)" and a point defined by latitude 39° 09′ 59.3″ and longitude 76° 28′ 39.7″, situated on Rock Point; thence along the center line of Brewerton Channel to a point defined by the intersection of this line with the center line of Fort McHenry Channel; thence along the center line of Fort McHenry Channel to a point defined by the intersection of this line with the southern boundary line of Baltimore County.[3]

[1] For a complete historical and legal description of the boundaries of the counties of Maryland, the valuable publication entitled "The Counties of Maryland—Their Origin, Boundaries, and Election Districts," prepared by Dr. Edward B. Mathews and published by the Maryland Geological Survey under the direction of Dr. William Bullock Clark, superintendent, should be consulted, as the boundaries described in this publication have been established and technically defined for the purpose of carrying out the oyster laws of the State, and may or may not be correct for other purposes.

[2] See "Charts of Natural Oyster Bars," published by the Coast and Geodetic Survey, and the progress map at the end of this publication.

[3] Latitudes and longitudes based on the United States standard datum of the United States Coast and Geodetic Survey.

WATERS CONTIGUOUS TO COUNTY.

The oyster laws of Maryland provide that a true and accurate delineation of all natural oyster bars shall be made on copies of charts of the United States Coast and Geodetic Survey, "which said copies shall be filed in the office of the said commissioners," and "in the office of the clerks of the circuit courts for the respective counties wherein the grounds so designated may lie."

For the purpose of carrying out the latter part of this section of the law and for the purpose of establishing the limits of the oyster-culture area to be opened up for leasing with each county surveyed, it is necessary for the Shell Fish Commission to establish a boundary line between the waters contiguous to but not within the territorial limits of each county and the waters contiguous to but not within the territorial limits of adjacent counties.

This boundary line has been delineated on the "Charts of Natural Oyster Bars," published by the Coast and Geodetic Survey and is technically described and defined as follows:

Commencing at a point situated in the mouth of the Gunpowder River at the intersection of the boundary between Baltimore and Harford counties and a straight line between the northeastern end of Millers Island and the southwestern end of Sprys Island and defined by latitude 39° 16′ 58.8″ and longitude 76° 20′ 10.0″; thence in a straight line across a part of Chesapeake Bay to a point situated about $1\frac{1}{10}$ miles south of the southern end of Pooles Island and defined by latitude 39° 15′ 30.0″ and longitude 76° 16′ 20.4″; thence in a straight line along the waters of Chesapeake Bay to a point situated about $3\frac{3}{10}$ miles east of "Seven Foot Knoll Light" and $3\frac{7}{10}$ miles southeast of "Craighill Channel Light (Front Range)" and defined by latitude 39° 09′ 10.6″ and longitude 76° 21′ 00.0″; thence in a straight line along the continuation of the center line of Brewerton Channel to Brewerton Channel, and thence along the center line of Brewerton Channel to a point defined by the intersection of this line and a straight line between "North Point (Old Tower Foundation)" and a point defined by latitude 39° 09′ 59.3″ and longitude 76° 28′ 39.7″, situated on Rock Point.[1]

[1] Latitudes and longitudes based on the United States standard datum of the United States Coast and Geodetic Survey.

LANDMARKS (U. S. COAST AND GEODETIC SURVEY TRIANGULATION STATIONS).

EXPLANATION.

The oyster laws of Maryland authorizing the survey to be made by the shell fish commission provide for "an accurate report of said survey, setting forth such a description of landmarks as may be necessary to enable the said board, or their successors, to find and ascertain the boundary lines of said natural oyster beds, bars, and rocks, as shown by delineation on the maps and charts." The law of the United States authorizing the cooperation of the Department of Commerce and Labor in the survey of natural oyster bars of Maryland provides for the erection of "such structures as may be necessary to mark the points of triangulation, so that the same may be used for such future work of the Coast and Geodetic Survey as the said bureau may be hereafter required to perform in prosecuting the Government coast survey of the navigable waters of the United States located within the State of Maryland."

Under the provisions of the sections of the laws stated above, the markings and descriptions of landmarks must be sufficient for the present and future needs of both the Government and the State. With this end in view, considerable work has been expended in erecting permanent monuments at the triangulation stations and in the proper description of their location.

An effort has been made to arrange the descriptions of location and character of landmarks in a uniform and logical manner. The descriptions start with the assumption that the individual seeking a landmark has only an indefinite idea of its location. They gradually proceed from description of the general locality of a landmark to the descriptions of its immediate surroundings. This is followed by specific details of the character of the center and reference marks and a "round" of reference angles and distances which in themselves frequently contain enough information to furnish an independent and reliable location of the triangulation station.

METHOD OF DESCRIBING TRIANGULATION STATIONS.

The separate descriptions of triangulation stations should not be used without reading the following explanation of the method of describing the triangulation stations, as it contains certain details that are common to all the landmarks described in this publication and which are omitted in the separate descriptions as being needless repetitions:

Name.—The title at the top of each separate description is the name by which the landmark or triangulation station is known and designated in all work and published oyster records or oyster charts of both the Government and State. The selection of the name is usually left to the triangulator establishing the station, and it may or may not have geographic or other significance in reference to the locality.

General locality.—Under this heading is given the general locality of the landmark in reference to well-known and prominent natural or artificial features, such as the nearest body of water, town, river, steamer wharf, well-defined point of land, church, or any other feature that is likely to remain both permanent and prominent.

This heading also covers a reference to the published chart or map which shows the location of the station most clearly. Nearly all the triangulation stations described in this publication are plainly indicated by name and a triangulation symbol on the published charts of oyster bars of Maryland. In this case they are referred to by serial number only, the words "charts of oyster bars of Maryland" being omitted to avoid needless repetition. These published oyster charts are on the large scale of 1 part in 20,000 (approximately $3\frac{1}{6}$ inches to a statute mile) and show the locations of the triangulation stations so clearly that in many cases the written descriptions will not be required to find them.

Immediate locality.—Under this heading is given the description of the "observed station" in reference to its immediate surroundings. This is supposed to include a statement of the station's estimated elevation above high water or some other well-defined level of the locality, such as a road or house; the character of the ground on which it is located, such as marsh land, sand beach, cultivated field, or meadow; estimated bearings in points of the compass and estimated distances in yards *from* (*not to*) easily recognized features, such as extreme end of point, edge of bluff, bank of creek, line of telephone poles, shore line, barn, house, fence, ditch, trees, or any other definite detail, such as being on range with the tangent of an island and a church; and so forth.

When a standard monument has been established near the station as a "reference station," this heading also covers a statement of the true bearing of the monument in degrees and minutes and its measured distance in meters, as it is the first object that is likely to catch the eye when the immediate vicinity of the desired station is reached and might be mistaken for the center mark of the "observed station" unless special attention is called to it.

The distinction between the "observed station" and "reference station" should be carefully noted by anyone making use of the description of stations for any future surveying operations.

The "observed station" is located at the particular triangulation point covered by the description of stations, and is the one whose geographic position is first computed, as it is the point which was "occupied" and "observed on" for horizontal angles. However, in spite of the primary importance of the location of the "observed station," it will be noted from the description of stations that frequently it is not marked as well as the "reference station," and in some instances has only a pine stub to indicate its position. This is the case for the reason that the necessity of intervisibility of landmarks usually made it compulsory to locate "observed stations" on edges of banks and ends of points of land, which in the tide-water section of Maryland generally means they will be washed away in a short period of years. The past experience of the Coast and Geodetic Survey in this region has shown the great need of "reference stations," if the frequent reestablishment of a new framework of triangulation is to be avoided.

The chief reason and need for the establishment of the "reference station," or secondary station, as it might be well named, is explained in the preceding paragraph, but in several instances other reasons, such as the location of the "observed station"

on an unstable sand dune, in a cultivated field, in front of a residence, or other places objectionable to the landowner, have led to establishment of "reference stations." The location of the "reference station" in relation to the "observed station" is fixed for plotting on charts or for computation of its geographic position by checked measurements of its distances and azimuth from the "observed station." [1]

Marks.—Under this heading is given a description of the character of the permanent monuments or other marks of the location of the "observed station," and of the "reference station" where one has been established.

All the marks designated in the descriptions as "the center point of triangle on standard cement monument" are exactly alike. These monuments are made of cement, sand, and gravel, and are 2 feet long and 8 inches square at top and bottom. Their tops are all marked with the same brass mold and show a center hole surrounded by a triangle, with the letters "M. S. F. C." arranged around the vertex and the letters "U. S. C. S." underneath the base of the triangle. The center hole is always in the center of the top of the monument by construction, and if this is found to have been broken off without disturbing the bottom, the center of its square section can be used as the location of the station.

As the above facts in reference to the "standard cement monuments" are a constant element in all cases, the repetition of these facts in the description of stations is made needless by this one statement.

References.—Under this heading are given the "rounds" of directions and distances to all objects that might be useful in locating the stations when the surface marks can not be found. It is also contemplated that for general purposes of topography, hydrography, or location of boundaries of oyster bars these references will be sufficient in many cases to relocate the position of an "observed station" or "reference station" when both of them have been destroyed.

The first reference object given in the descriptions is always a triangulation station visible from the station being described, this, if possible, being a lighthouse, church spire, or other permanent and prominent point. Its direction is taken as being 0° 00′ 00″, and the directions of all other objects are measured from it as an initial point, the angles being taken in a clockwise direction (left to right).

The true bearing [2] of the initial object is always given in parentheses alongside its name. This furnishes means for the calculation of the bearings of any of the other reference objects for the purposes of locating a station by horizontal angles or for the relocation of corner buoys of oyster-bar boundaries by the method of compass directions described in this publication under the heading of "Boundaries of oyster bars."

The distances in the last column under "References" are given in three different units, which vary according to their accuracy. The "miles" are statute miles, and may be considered only as rough estimates. The "yards" are more accurate, but must be looked on as results generally obtained by pacing or careful estimating. The "meters," however, are accurate to the degree indicated by their decimals and in every case have been measured with a steel tape. In the same manner, the accuracy of the directions are indicated by the refinement of angular measure with which they are recorded.

[1] Geographic coordinates (latitude, longitude, distance, and azimuth) relating to any of the "observed stations" or of the "reference stations" described in this publication can be obtained by application to the Superintendent of the Coast and Geodetic Survey, at Washington, D. C.

[2] The mean magnetic variation for Baltimore County was 6° 15′ west of north in 1911 and increasing at the rate of 5′ yearly.

DESCRIPTIONS OF TRIANGULATION STATIONS.

POOLES ISLAND LIGHT.

General locality.—Upper Chesapeake Bay on northwest side of Pooles Island. (See Chart No. 27.)
Immediate locality.—Observed station is on a detached tower known as Pooles Island Lighthouse.
Marks.—Observed station is center point of lantern on tower.
References—

	°	′	″	
"Craighill Channel Light (Front Range)" (S 44° 19′ W).	0	00	00.....	10 miles.

POOLES ISLAND 2.

General locality.—Upper Chesapeake Bay on Pooles Island, about ¼ mile southeast of Pooles Island Light and ¼ mile north by west of Pooles Island wharf. (See Chart No. 27.)

Immediate locality.—Observed station is in a peach orchard, on highest ground on northern part of Pooles Island, about 500 yards southeast of Pooles Island Light and 370 yards north by west of farmhouse. The angle at the southwest corner of the farmhouse between the windmill at the barn and the observed station is 84°, and the angle at the observed station between the light tower and the fog-bell tower is 2° 47′.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument. (Note: These marks replace old ones of 1896.)

References.—

	°	′	″		
"Pooles Island Light" (N 47° 16′ W).....	0	00	00	.....	452 meters.
Break in bluff on east shore of bay showing through peach trees.....	153	12	..	.....	3¾ miles.
Center of chimney of small house in rear of dwelling.....	215	00	..	.....	¼ mile.
Center of middle one of three chimneys on dwelling.....	218	03	..	.....	¼ mile.
Center of cupola on small building.....	220	50	..	.....	¼ mile.
Near gable of barn.....	238	06	..	.....	¼ mile.
Windmill.....	241	56	..	.....	¼ mile.
Center one of four nails in apple tree.....	336	24	10	.....	33.72 meters.

WORTON POINT 2.

General locality.—Eastern shore of Chesapeake Bay on Worton Point, about 1⅜ miles north of mouth of Worton Creek and 4½ miles northeast of north end of Pooles Island. (See Progress map.)

Immediate locality.—Observed station is on tree and bush fringed bluff about 30 feet above high water, 2 yards east-southeast of edge of bluff and 1 yard south-southwest of a very small ravine. Cement monument marking reference station is 14.05 meters S 61° 17′ E of observed station.

Marks.—Observed station is center of 4-inch tile pipe with top 6 inches below surface of ground. Subsurface mark is center of 4-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—

	°	′	″		
"Pooles Island 2" (S 62° 18′ W)	0	00	00	.....	4⅝ miles.
Right tree on Pooles Island	3	17	..	.....	4½ miles.
South peak of small house	42	46	..	.....	4½ miles.
Left peak of house	74	43	..	.....	4½ miles.
Nail in blaze in ash tree (2½ inches diameter)	88	42	40	.....	1.06 meters.
Chimney outside of right end of old house	94	07	..	.....	3½ miles.
Chimney near left end of roof of house with gables	116	04	..	.....	4¼ miles.
Nail in blaze in ash tree (3 inches diameter)	154	28	10	.....	4.24 meters.
REFERENCE STATION	236	25	00	.....	14.05 meters.
Nail in blaze in locust tree (5 inches diameter)	310	44	20	.....	4.61 meters.

BRAMBLE.

General locality.—Eastern shore of Chesapeake Bay, about 3 miles southeast of center of Pooles Island, 3 miles north-northeast of Tolchester Beach, and 1¼ miles southwest of entrance to Fairlee Creek. (See Progress map.)

Immediate locality.—Observed station is on a tree and bush fringed bluff about 30 feet above high water, 3 yards east of edge of bluff, 3 yards west of edge of cultivated field, 35 yards southwest of trees at edge of gully, and 200 yards west of other trees. Cement monument marking reference station is 47.16 meters N 67° 05′ E of observed station.

Marks.—Observed station is 2-inch stub projecting 3 inches above surface of ground. Subsurface mark is beer bottle buried below base of stub. Reference station is center point of triangle on standard cement monument projecting 2 inches above surface of ground.

References.—

	°	′	″		
"Craighill Channel Light (Rear Range)" (S 78° 44′ W)	0	00	00	.....	9⅜ miles
Left tree on Pooles Island	37	53	..	.....	3 miles.
Windmill on middle of long building on Pooles Island	54	00	..	.....	2⅞ miles.
North peak of house with several gables on Pooles Island	55	21	..	.....	2⅞ miles.
"Pooles Island Light"	57	19	00	.....	3⅜ miles.
REFERENCE STATION	168	21	00	.....	47.16 meters.
Cupola on barn	259	24	40	.....	1 mile.
"Craighill Channel Light (Front Range)"	344	34	10	.....	10¼ miles.
"Fort Howard Taller Water Tank"	354	30	00	.....	12½ miles.
Left one of two smokestacks at Sparrows Point	359	35	..	.....	14½ miles.

MITCHELLS BLUFF 2.

General locality.—Eastern shore of Chesapeake Bay on Mitchells Bluff, just north of first break in bluff, about 5/8 miles north-northeast of Tolchester Beach Wharf. (See Progress map.)

Immediate locality.—Observed station is in cultivated ground about 30 feet above high water, 13 yards southeast of edge of bluff, 50 yards northeast of point of gully where fishermen haul up gear, 70 yards south of small clump of trees, and 1/4 mile northwest of a large farmhouse.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is wire in center of 2-inch tile pipe buried with top 2 inches below base of monument. (Note: Subsurface mark is either a part or replaces the original one of 1896.)

References.—

	°	′	″		
"Craighill Channel Light (Rear Range)" (N 87° 52′ W)	0	00	00	.....	8 3/8 miles.
Chimney at left end of house on opposite shore	57	00	..	.....	6 1/4 miles.
Chimney at left end of house on Pooles Island	71	11	..	.....	4 1/4 miles.
Chimney on middle of roof of building beyond trees	170	10	..	.....	5/8 mile.
Spindle of weather vane on middle cupola of barn	200	28	30	.....	1/4 mile.
Near corner of large west chimney of house	210	54	..	.....	1/4 mile.
West peak of barn	260	07	..	.....	3/8 mile.
"Seven Foot Knoll Light"	330	18	30	.....	10 1/4 miles.
"Craighill Channel Light (Front Range)"	341	20	40	.....	8 1/4 miles.

CRAIGHILL CHANNEL LIGHT (REAR RANGE).

General locality.—Western side of upper Chesapeake Bay, about 200 yards offshore from the southwestern end of Hart Island. (See Chart No. 27.)

Immediate locality.—Observed station is on a tall square pyramidal skeleton steel frame structure known as Craighill Channel Light (Rear Range).

Marks.—Observed station is center point of lantern on Craighill Channel Light (Rear Range).

References.—

	°	′	″		
"Craighill Channel Light (Front Range)" (S 0° 01′ E)	0	00	00	.....	2 3/4 miles.

CRAIGHILL CHANNEL LIGHT (FRONT RANGE).

General locality.—Western side of Chesapeake Bay, about 2 miles offshore and about 2 3/4 miles east of North Point at entrance to Patapsco River. (See Chart No. 27.)

Immediate locality.—Observed station is on dwelling on cylindrical foundation known as Craighill Channel Light (Front Range).

Marks.—Observed station is center point of lantern on Craighill Channel Light (Front Range).

References.—

	°	′	″		
"Craighill Channel Light (Rear Range)" (N 0° 01′ W)	0	00	00	.....	2 3/4 miles.

NORTH POINT (OLD TOWER FOUNDATION).

General locality.—Northern side of entrance to Patapsco River near North Point. (See Chart No. 27.)

Immediate locality.—Observed station is on an old stone tower foundation about 150 yards offshore from North Point.

Marks.—Observed station is center point of foundation of stone tower formerly used as a light-house.

References.—

	°	′	″		
"Craighill Channel Light (Front Range)" (S 81° 20′ E).....	0	00	00	.....	2½ miles.

FORT HOWARD TALLER WATER TANK.

General locality.—Northern side of entrance to Patapsco River about ½ mile north-northwest of North Point. (See Chart No. 27.)

Immediate locality.—Observed station is the taller of two steel water tanks on steel towers at Fort Howard.

Marks.—Observed station is center point of pipe attached to center of bottom of tank.

References.—None necessary.

CUTOFF CHANNEL LIGHT (FRONT RANGE).

General locality.—Northern side of entrance to Patapsco River about 125 yards offshore and ¼ mile west-northwest of North Point. (See Chart No. 27.)

Immediate locality.—Observed station is an octagonal brick tower known as Cutoff Channel Light (Front Range).

Marks.—Observed station is center point of lantern on Cutoff Channel Light (Front Range).

References.—

	°	′	″		
"Cutoff Channel Light (Rear Range)" (N 30° 30′ W).....	0	00	00	.....	1½ miles.

CUTOFF CHANNEL LIGHT (REAR RANGE).

General locality.—Northeastern side of Patapsco River on western side of entrance to Jones Creek, about 1¾ miles north-northwest of North Point and 1 mile east of the town of Sparrows Point. (See Chart No. 27.)

Immediate locality.—Observed station is on a square pyramidal skeleton steel frame structure known as Cutoff Channel Light (Rear Range).

Marks.—Observed station is center point of lantern on Cutoff Channel Light (Rear Range).

References.—

	°	′	″		
Bodkin Light (Old Tower) (S 20° 12′ E)	0	00	00	.....	6 miles.

ROCK POINT.

General locality.—Southwestern shore of Patapsco River on Rock Point at southeastern side of entrance to Rock Creek and about 2⅝ miles southwest of North Point. (See Chart No. 27.)

Immediate locality.—Observed station is near the extreme end of point about 12 yards from sea wall, and 70 yards southeast of a small tower.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Seven Foot Knoll Light" (S 78° 17′ E).....	0	00	00	.....	3¾ miles.
"Bodkin Point (Old Tower)".....	25	43	..	.....	3¾ miles.
Small tower.....	194	00	..	.....	70 yards.
Outer "White Rocks".....	211	07	..	.....	¾ mile.
Water tower on opposite shore.....	291	27	..	.....	2½ miles.

BODKIN POINT (OLD TOWER).

General locality.—Southern side of entrance to Bodkin Creek on Bodkin Point. (See Progress map.)

Immediate locality.—Observed station is about 15 yards east of an old stone dwelling on top of an old tower formerly used as a lighthouse.

Marks.—Observed station is center of drill hole about 2 inches in diameter and 3 inches deep in stone platform on and near center of top of tower.

References.—

"Seven Foot Knoll Light" (N 30° 04′ E)	° 0	′ 00	″ 00	.....	1½ miles.

SEVEN-FOOT KNOLL LIGHT.

General locality.—Western side of Chesapeake Bay off entrance to Patapsco River about 2½ miles north-northeast of Bodkin Point and 3¼ miles southeast of North Point. (See Chart No. 27.)

Immediate locality.—Observed station is on an octagonal screw pile structure known as Seven-Foot Knoll Lighthouse.

Marks.—Observed station is center point of lantern on Seven-Foot Knoll Light.

References.—

"Bodkin Point (Old Tower)" (S 30° 03′ W)	° 0	′ 00	″ 00	.....	1½ miles.

SWAN POINT 3.

General locality.—Eastern shore of Chesapeake Bay on Swan Point about 5½ miles south-southwest of Tolchester Beach Wharf and 7 miles north of Love Point. (See Progress map.)

Immediate locality.—Observed station is on sand and marsh point about 2 feet above high water, 5 feet east of shore, 60 yards south-southwest of a fisherman's cabin, and 250 yards from the extreme end of Swan Point. Cement monument marking old reference station is in marsh 21.43 meters N 89° 13′ E of observed station. Standard cement monument marking new reference station is on line to old reference station 13.26 meters N 89° 13′ E of observed station.

Marks.—Observed station is ¼-inch copper rod set in an 8-inch square cement monument with top about 5 inches below surface of ground. Subsurface mark is the neck of a flask set in cement about 4 feet below the surface. New reference station is center point of triangle on standard cement monument. Old reference station is eastern one of two ¼-inch copper rods in an 8-inch cement monument.

References.—

	°	′	″		
"Love Point Light" (S 2° 11′ W)	0	00	00	.....	5¾ miles.
"Baltimore Light"	46	07	00	.....	8½ miles.
Stack on garbage plant at Bodkin Point	82	21	..	.....	8¼ miles.
"Seven-Foot Knoll Light"	95	04	50	.....	7 miles.
Left stack at Sparrows Point	111	12	..	.....	12¾ miles.
"Fort Howard Taller Water Tank"	112	28	20	.....	9⅞ miles.
"Craighill Channel Light (Front Range)"	114	59	50	.....	7 miles.
"Craighill Channel Light (Rear Range)"	131	46	20	.....	8¾ miles.
Chimney of cabin	203	54	..	.....	58 yards.
Gable of Rockhall Wharf house	264	07	..	.....	1 mile.
OLD REFERENCE STATION	267	02	20	.....	21.43 meters.
NEW REFERENCE STATION (STANDARD CEMENT MONUMENT)	267	02	20	.....	13.26 meters.
Chimney of house to right of Windmill Point	292	12	..	.....	2 miles.
Gable of barn	303	49	..	.....	2¼ miles.
Gable of barn near Wickes Beach	340	52	..	.....	7⅝ miles.

BOUNDARIES OF OYSTER BARS.

EXPLANATION.

The law of the United States authorizing the cooperation of the Department of Commerce and Labor in the survey of natural oyster bars of Maryland provides for the designation and employment by the Department of Commerce and Labor of such officers, experts, and other technically qualified persons "as may be necessary to cooperate with the Maryland State Board of Shell Fish Commissioners in making a survey of and locating the natural oyster beds, bars, and rocks in the waters within the State of Maryland." The oyster laws of Maryland provide that the Maryland Shell Fish Commissioners, with the aid of such persons as may be designated by the Government, shall proceed "to have laid out, surveyed, and designated on the said charts the natural beds and bars, and shall cause to be marked and defined as accurately as practicable the limits and boundaries of the natural beds, bars, and rocks as established by said survey, and they shall take true and accurate notes of said survey in writing, and make an accurate report of said survey, setting forth such a description of landmarks as may be necessary to enable the said board, or their successors, to find and ascertain the boundary lines of the said natural oyster beds, bars, and rocks, as shown by a delineation on the maps and charts." The oyster laws of Maryland also provide in another section that there shall "be made a true and accurate survey of the natural oyster beds, bars, and rocks * * * with reference to fixed and permanent objects on the shore, giving courses and distances, to be fully described and set out in a written report of said survey."

Under the provisions of the laws quoted above the State of Maryland, in cooperation with the Department of Commerce and Labor, must define the boundaries of the natural oyster bars "as accurately as practicable" and also "with reference to fixed and permanent objects on the shore, giving courses and distances." The requirement of "as accurately as practicable" is easily fulfilled by definition of the location of the corners of the oyster bars by latitude and longitude. In fact, this method is probably the most satisfactory and accurate one that could be used for all purposes of legal definition or for relocation of the oyster-bar boundaries by competent engineers. Therefore the additional requirement of "giving courses and distances" is superfluous and is only fulfilled in the published definitions on account of the specific provisions of the law making it compulsory. This part of the description of boundaries has involved an immense amount of extra computations in order to prevent technical discrepancies between the latitude and longitude of a corner of an oyster bar and its distance and bearing from objects on shore of known latitude and longitude without adding anything to the accuracy and very little to the convenience of practical use of the descriptions of the oyster-bar boundaries.

As provided by law the boundaries of the oyster bars are all straight lines, but in the work already completed they have inclosed areas of all shapes from triangles to

complicated 14-sided figures, and of all sizes from 4 acres to 7,548 acres. The sides have varied in length from 93 to 7,529 yards, and in some cases the corners of the boundaries have been practically at the triangulation stations from which they are located, while in other instances they were over 13,600 yards from the landmarks most available for the purpose of fixing their position.

The varied characteristics of the legal boundaries of the oyster bars indicated by the above statement, together with the complicated requirements of the law under which the survey has been made and the magnitude of the work with the consequent need of fixed and uniform methods, have made the problem of describing the boundaries one of considerable difficulty and great importance.

The boundaries of the oyster bars of Maryland, as established by the Shell Fish Commission and delineated on the Coast and Geodetic Survey charts and projections and on the leasing charts of the commission, are technically defined and described by a method somewhat different from that used in other oyster surveys. But it is believed that the forms finally adopted will fulfill all needs of the survey for both the present and the future.

METHOD OF DESCRIBING BOUNDARIES.

The descriptions have been arranged in tabular form, thus avoiding many hundred repetitions of the same words by making one explanation of the tables sufficient for all oyster bars in each county.

Title.—At the top of each tabular form is given the legal name of the oyster bar to be described, and the one by which it is known and designated in the published oyster records and on the oyster charts. The adopted name of the oyster bar is the one used locally, as nearly as could be ascertained by the hydrographic engineer of the commission; and when there was no local name in common use a name was selected from one of the prominent features of the vicinity that would naturally suggest the section of the waters where the oyster bar was located.

Underneath the name, in parentheses, is given the general locality of the oyster bar and the serial number of the "Maryland Oyster Chart" on which its legal boundaries are shown.[1]

First column.—This column, under the heading of "Corner of bar," gives the number corresponding to the corner of the boundary as shown on the charts and to the number on the buoy marking the actual corner of the bar. The numbers of the corners have been assigned by naming the southernmost point No. 1, thence proceeding in a clockwise direction around the bar. Where a corner of one oyster bar is identical with the corner of the boundaries of one or more other oyster bars, only the number of the corner of the oyster bar being described in the table is given in this column.

Second and third columns.—These two columns, under the headings of "Latitude" and "Longitude," give the geographic positions of the corners. These positions have been adopted by the commission as the primary technical definition of the location of the corners, and should be considered as final in case of a dispute arising from discrepancies caused by other means of location. The latitudes and longitudes given in these columns are based on the United States standard datum of the Coast and Geodetic

[1] These charts can be obtained by application to the Superintendent of the Coast and Geodetic Survey at Washington, D. C.

Survey, and the points thus defined can be relocated from distant triangulation stations of the survey, even though all the landmarks and buoys originally used for their location have been destroyed by natural or other causes.

Fourth and fifth columns.—These two columns, under the general heading of "True bearing" [1] and the specific headings "Forward" and "Back," give bearings measured from a true north-and-south line. The three "Forward" bearings are from the corner of the boundary designated in the first column to the triangulation stations named on the corresponding lines in the last column, and the three "Back" bearings are from these same stations in the last column to the corresponding corner of boundary in the first column. The difference in minutes of arc between the forward and back bearings shown in some cases is actual and not accidental, and is due to the fact that the computations took into account the spheroidal shape of the earth.

Sixth column.—This column, under the heading of "Distance," gives the three computed distances in yards from the corner of the bar noted in the first column to the three triangulation stations named on the corresponding lines in the last column, and vice versa.

Seventh column.—This column, under the heading of "U. S. C. & G. S. triangulation station," [2] gives the names of the landmarks from which were computed the corresponding "Latitude," "Longitude," "True bearing," and "Distance" of the "Corner of the bar" designated in the first column. A full description of the location and markings of these triangulation stations is given in another part of this publication under the heading of "Descriptions of triangulation stations."

SURVEYING METHODS FOR RELOCATION OF BOUNDARIES.

There are a number of methods that can be used in the relocation of the actual boundaries of the natural oyster bars as technically described in this publication and delineated on the published charts of the Coast and Geodetic Survey and the leasing charts of the Shell Fish Commission.

The following brief descriptions of five of these more or less different methods assume a certain amount of experience and knowledge on the part of the engineer in the particular kind of surveying under consideration, and are only intended as reminders of ways and means that can be used.

There are two problems that are likely to present themselves to those interested in the boundaries of natural oyster bars: one, to determine whether the buoys marking the corners have been dragged or otherwise moved from their correct positions, and the other, to relocate or reestablish a buoy at the point from which it was removed. The different ways of solving these two problems partly depend upon the instruments possessed by the engineer and his assistants and partly on his training and experience.

(1) *Triangulation.*—This method is the one that will give the greatest accuracy, but on account of its requiring special data and instruments, and being an operation rarely used by engineers not engaged in geodetic surveying, it is recommended only for cases in dispute that can not be settled satisfactorily by some other method. An explanation of this class of work would be too long for a report of this sort, and those

[1] The mean magnetic variation for Baltimore County was 6° 15′ west of north in 1911 and increasing at the rate of 5′ yearly.

[2] Geographic positions of these triangulation stations can be obtained by application to the Superintendent of the Coast and Geodetic Survey, Washington, D. C.

not familiar with this method are referred to the publications on the subject by the Coast and Geodetic Survey.

(2) *Hydrographic.*—This method is the most simple and satisfactory one that can be adopted if the surveyor can obtain the use of the necessary instruments and assistants. It is the one best suited for the work of the engineers of the commission in relocating corners of boundaries, as it gives results of the accuracy ordinarily required and is rapid in execution. Besides, it has the advantage of being available whenever three triangulation stations of suitable relative positions are visible from the offshore points needing relocation.

Most navigators and others familiar with the use of a sextant are well acquainted with the graphic three-point method of fixing a position on water, and only a brief description of the operation will be stated.

In the case where there is only one engineer having a single sextant, the three-point method can be used if the two angles determining the position of a buoy are first derived from the "Forward" bearings given in the tabular forms describing the boundaries of the oyster bars. For example, take "Tea Table" oyster bar, which is the first one described in this publication, and assume that "Corner No. 3," is to be examined as to its position. The angle between the two landmarks "Pooles Island 2" and "Craighill Channel Light (rear range)" as determined from right to left from the forward bearings from this corner is 122° 06′ and the angle between "Craighill Channel Light (rear range)" and "Swan Point 3" is 86° 06′. Having these two angles, the engineer proceeds to the buoy of doubtful location and measures the actual sextant angles between the landmarks for which the calculations were made. If the measured and calculated angles do not agree, the buoy is not in its correct position and the boundary corner must be relocated. This is accomplished by moving the boat about until a point is reached where the angles do agree, and this point being the desired location, the buoy can be placed in its correct position.

If the engineer can obtain the use of both a sextant and a three-arm protractor (position finder), the availability of the hydrographic method is increased, as the use of the protractor is essential in case of the washing away or destruction of one or more of the landmarks originally used in describing the boundaries. Under these circumstances, any three landmarks of suitable relative position that are visible from the point to be located can be utilized. For example, the engineer can proceed to the buoy of doubtful position and measure the two adjacent sextant angles between the three landmarks selected. These two angles are set off on the three-arm protractor and the actual position of the buoy plotted on the chart by shifting the protractor about until the edge of each of the three arms passes through the center of the symbols on the chart marking the position of the three landmarks selected. The center of the hub of the protractor will indicate on the chart the actual position of the buoy, and if the point thus obtained does not coincide with the true position of the corner of the boundary as given on the chart, the surveyor can proceed to locate the buoy correctly by reversing the operation. This is done by placing the center point of the hub of the protractor over the corner of the boundary in question and measuring on the chart the two adjacent protractor angles between the three selected landmarks. One of the angles thus obtained is set on the sextant and the boat moved about until the two landmarks are shown by the sextant to subtend the same angle obtained from the protractor. The second angle is then placed

on the sextant and the same operation gone through, and so on, first using one angle on the sextant, then the other, until a point is reached where both observed sextant angles are practically identical with the protractor angles. The point thus located is the desired one and the buoy can be placed to mark the true position of the corner of the boundary in question.

If the engineer possesses two sextants and a protractor, this problem is far easier of solution, as the two angles can be set off on separate sextants and the observer can quickly find the desired point where they agree with the protractor angles by using one sextant after the other without the need of resetting either.

If there are two observers, two sextants, and a protractor, it can be seen that the best conditions for both rapid and accurate hydrographic location of a point is attained. In fact, this is the method by which the buoys at the corners of the boundaries were originally placed by the hydrographic engineer to the commission.

(3) *Magnetic bearings from offshore.*—This method of fixing a position on water is a simple and well-known one in navigation. It is available to anyone having a boat compass and will be of special use to the State fishery force in investigating cases where buoys are supposed to have been moved for illegal purposes.

In the case where a buoy is supposed to have been moved from its true position the observer can take compass bearings to the three landmarks given in the last column of the tables opposite the boundary corner in question. These bearings are then corrected for the local declination,[1] and if the results agree with the published bearings the buoy is correctly located.

In the case where the buoy is not in its correct position, or has disappeared altogether, the desired point can be determined by maneuvering the vessel until the corrected bearings agree with the ones in the tabular descriptions, when the buoy can be anchored in its proper location.

In the case where the landmarks for which the bearings are published have been destroyed or washed away, any landmarks whose positions are indicated on the charts can be used. This can be done by getting their bearings directly from the chart by parallel rulers or a protractor and then applying these new bearings in the same manner as the ones published in the tables.

(4) *Magnetic bearings from shore.*—This method will be of special value to engineers having an ordinary surveyor's compass. The compass can be set over the point marking a "triangulation station" on shore, the name of which is given in the last column opposite the "corner" in question. The instrument is then set at the corresponding "back" bearing (corrected for local magnetic declination) given in the fifth column of the tables opposite the "corner" in question. The direction thus determined will give one range on which the desired point must be located. The compass can then be moved to a second triangulation station and another range located in a similar manner. The intersection of these two range lines will give the desired point; but in general it should be checked by an additional range line determined from a third station.

(5) *Horizontal angles measured at landmarks.*—This process is a modification of the triangulation method, and will be useful to engineers who have a transit and desire considerable accuracy.

[1] The mean magnetic variation for Baltimore County is 6° 15′ west of north in 1911 and increasing at the rate of 5′ yearly.

The instrument is placed over a "triangulation station," the name of which appears in the last column of the tabular description opposite the "corner" in question. The telescope is then pointed to the landmark indicated in the "Descriptions of landmarks" as having a direction of 0° 00′ 00″ from the triangulation station being occupied by the transit. The tabular description of the boundaries is next examined and the "back" bearing of the questionable boundary "corner" from the landmark being occupied is taken out. The angle calculated from this "back" bearing and the bearing given in parentheses alongside the zero landmark in the "Descriptions of landmarks" is then set off on the transit and a range line established on which the desired point must be located. A similar process is then carried on at a second station, and so on until the position of the buoy is satisfactorily fixed.

BOUNDARIES OF NATURAL OYSTER BARS.

TEA TABLE.

(*Chesapeake Bay—Chart No. 27.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	United States Coast and Geodetic Survey triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 11 15.97	76 20 55.05	N 40 59 W	S 41 00 E	6,635	Craighill Channel Light (Rear Range).
			N 88 40 W	S 88 41 E	4,353	Craighill Channel Light (Front Range).
			S 55 33 W	N 55 30 E	6,948	Seven Foot Knoll Light.
2	39 13 44.98	76 18 37.80	N 32 17 E	S 32 18 W	8,413	Pooles Island 2.
			S 89 54 W	N 89 51 E	7,951	Craighill Channel Light (Rear Range).
			S 58 15 W	N 58 12 E	9,351	Craighill Channel Light (Front Range).
3	39 14 27.97	76 17 21.27	N 23 43 E	S 23 44 W	6,184	Pooles Island 2.
			S 81 37 W	N 81 33 E	10,065	Craighill Channel Light (Rear Range).
			S 4 29 E	N 4 29 W	11,999	Swan Point 3.
4	39 14 19.47	76 17 12.25	N 20 44 E	S 20 45 W	6,360	Pooles Island 2.
			S 83 26 W	N 83 20 E	10,261	Craighill Channel Light (Rear Range).
			S 3 26 E	N 3 26 W	11,697	Swan Point 3.
5	39 11 37.54	76 19 11.77	N 58 42 W	S 58 44 E	8,263	Craighill Channel Light (Rear Range).
			S 61 08 W	N 61 04 E	9,640	Seven Foot Knoll Light.
			S 31 43 E	N 31 41 W	7,304	Swan Point 3.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

MILLERS ISLAND.

(*Chesapeake Bay—Chart No. 27.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	United States Coast and Geodetic Survey triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 12 42.80	76 20 54.83	N 64 28 W	S 64 30 E	4,827	Craighill Channel Light (Rear Range).
			S 57 02 W	N 57 00 E	5,194	Craighill Channel Light (Front Range).
			S 37 53 E	N 37 50 W	10,660	Swan Point 3.
2	39 12 57.17	76 21 00.00	N 69 16 W	S 69 18 E	4,512	Craighill Channel Light (Rear Range).
			S 51 54 W	N 51 52 E	5,364	Craighill Channel Light (Front Range).
			S 36 54 E	N 36 52 W	11,127	Swan Point 3.
3	39 13 08.45	76 20 11.73	N 77 30 W	S 77 32 E	5,620	Craighill Channel Light (Rear Range).
			S 56 05 W	N 56 02 E	6,615	Craighill Channel Light (Front Range).
			S 30 16 E	N 30 14 W	10,742	Swan Point 3.
4	39 12 54.00	76 20 05.95	N 73 11 W	S 73 13 E	5,890	Craighill Channel Light (Rear Range).
			S 60 24 W	N 60 22 E	6,486	Craighill Channel Light (Front Range).
			S 30 54 E	N 30 53 W	10,246	Swan Point 3.

MAN O'WAR SHOALS.

(*Chesapeake Bay—Chart No. 27.*)

1	39 10 45.95	76 21 00.00	N 35 01 W	S 35 03 E	7,355	Craighill Channel Light (Rear Range).
			S 62 28 W	N 62 27 E	6,313	Seven Foot Knoll Light.
			S 56 12 E	N 56 10 W	8,040	Swan Point 3.
2	39 10 49.50	76 23 40.30	N 0 09 W	S 0 09 E	5,901	Craighill Channel Light (Rear Range).
			N 61 47 W	S 61 49 E	5,673	Fort Howard Taller Water Tank.
			S 24 35 W	N 24 35 E	3,341	Seven Foot Knoll Light.
3	39 11 16.18	76 23 40.00	N 0 16 W	S 0 16 E	5,000	Craighill Channel Light (Rear Range).
			N 70 24 W	S 70 26 E	5,315	Fort Howard Taller Water Tank.
			S 19 33 W	N 19 32 E	4,179	Seven Foot Knoll Light.
4	39 11 16.20	76 21 37.65	N 32 53 W	S 32 54 E	5,956	Craighill Channel Light (Rear Range).
			N 88 20 W	S 88 21 E	3,234	Craighill Channel Light (Front Range).
			S 49 30 W	N 49 28 E	6,064	Seven Foot Knoll Light.

APPENDIXES.

APPENDIX A.—LAWS RELATING TO THE COOPERATION OF THE COAST AND GEODETIC SURVEY AND BUREAU OF FISHERIES WITH THE MARYLAND SHELL FISH COMMISSION.

The work of the Coast and Geodetic Survey and of the Bureau of Fisheries, in cooperation with the Maryland Shell Fish Commission, in surveying the oyster bars, establishing permanent landmarks at triangulation stations, and preparing for publication the necessary charts and technical and legal descriptions of boundaries and landmarks shown on these charts, has been executed in compliance with a request from the governor of the State of Maryland to the Secretary of Commerce and Labor, and by the authority of the following laws of the United States and Maryland:

[Act of Congress approved May 26, 1906.]

AN ACT To authorize the Secretary of Commerce and Labor to cooperate, through the Bureau of the Coast and Geodetic Survey and the Bureau of Fisheries, with the shellfish commissioners of the State of Maryland in making surveys of the natural oyster beds, bars, and rocks in the waters within the State of Maryland.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of Commerce and Labor be, and he is hereby, authorized and directed, upon the request of the governor of the State of Maryland, to designate such officers, experts, and employees of the Bureau of the Coast and Geodetic Survey and of the Bureau of Fisheries as may be necessary to cooperate with the Maryland State board of shellfish commissioners in making a survey of and locating the natural oyster beds, bars, and rocks in the waters within the State of Maryland; and the Secretary of Commerce and Labor is hereby authorized and directed to furnish to the officers, experts, and employees of said Bureaus so detailed as aforesaid such instruments, appliances, and steam launches as may be necessary to make the survey aforesaid; and the Secretary of Commerce and Labor is hereby authorized to have made in the Bureau of the Coast and Geodetic Survey all the plats necessary to show the results of the aforesaid survey and the locations of the said natural oyster beds, bars, and rocks in the waters within the State of Maryland, and to furnish to the board of shellfish commissioners of the State of Maryland such copies as may be necessary, and for this purpose to employ, in the District of Columbia and elsewhere, such technically qualified persons as may be necessary to carry out the purpose of this act.

SEC. 2. That the Secretary of Commerce and Labor is hereby further authorized to have erected or constructed by the officers so detailed as aforesaid, while making such survey, such structures as may be necessary to mark the points of triangulation, so that the same may be used for such future work of the Coast and Geodetic Survey as the said Bureau may be hereafter required to perform in prosecuting the Government coast survey of the navigable waters of the United States located within the State of Maryland.

* * * * * * *

SEC. 4. That this act shall take effect from the date of its passage.

[Act of Congress approved June 30, 1906.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and seven, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and seven, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including the expenditures authorized under Public Act Numbered One hundred and eighty-one, approved May

twenty-sixth, nineteen hundred and six, and contingent expenses incident thereto, five thousand dollars, together with the unexpended balance under this appropriation for nineteen hundred and six and prior years which is hereby reappropriated and made available on this account for the fiscal year nineteen hundred and seven * * *.

[Act of Congress approved March 4, 1907.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and eight, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and eight, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, to be immediately available and to continue available until expended, twenty-five thousand dollars * * *.

[Act of Congress approved May 27, 1908.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and nine, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and nine, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, which expenses, including cost of plats and charts, shall not exceed fifteen thousand dollars in any one year, to be immediately available, twenty thousand dollars.

[Act of Congress approved March 4, 1909.]

AN ACT Making appropriation for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and ten, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and ten, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, which expenses, including cost of plats and charts, shall not exceed fifteen thousand dollars in any one year, to be immediately available, twenty thousand dollars.

[Act of Congress approved June 25, 1910.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and eleven, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and eleven, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, to be immediately available, fifteen thousand dollars.

[Act of Congress approved March 4, 1911.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and twelve, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and twelve, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, to be immediately available, thirteen thousand dollars * * *.

[Act of the Legislature of Maryland approved April 2, 1906.]

AN ACT To establish and promote the industry of oyster culture in Maryland, to define and mark natural oyster beds, bars and rocks lying under the waters of this State, to prescribe penalties for the infringement of the provisions of this Act, and * * *.

SECTION 1. *Be it enacted by the General Assembly of Maryland*, That the following sections be, and they are hereby, added to article 72 of the Code of Public General Laws, title "Oysters." * * *

SEC. 86. The Board of Shell Fish Commissioners shall, as soon as practicable after the passage of this Act, cause to be made a true and accurate survey of the natural oyster beds, bars and rocks of this State, said survey to be made with reference to fixed and permanent objects on the shore, giving courses and distances, to be fully described and set out in a written report of said survey, as hereinafter required. A true and accurate delineation of the same shall be made on copies of published maps and charts of the United States coast and geodetic survey, which said copies shall be filed in the office of the said commissioners in the city of Annapolis, and the said commissioners shall further cause to be delineated upon copies of the published maps and charts of the United States coast and geodetic survey, of the largest scale, one copy for each of the counties of this State in the waters of which there are natural oyster beds, bars and rocks, all natural beds, bars and rocks lying within the waters of such county, which maps shall be filed in the offices of the clerks of the Circuit Court for the respective counties wherein the grounds so designated may lie * * *.

SEC. 87. The Governor of this State is hereby requested to ask the assistance of the United States coast and geodetic survey, and of the United States Fish Commissioner, to aid in the carrying out of the provisions of the preceding section.

* * * * * * *

SEC. 89. As soon as practicable after the first day of April, 1906, the said commissioners shall organize, and shall at once proceed, with the assistance of such person or persons as may be detailed by the United States coast and geodetic survey and the United States Fish Commissioner, to aid them in their work, and of such persons as may be appointed under the preceding section, to have laid out, surveyed and designated on the said charts, the natural beds and bars, and shall cause to be marked and defined as accurately as practicable the limits and boundaries of the natural beds, bars, and rocks as established by said survey, and they shall take true and accurate notes of said survey in writing, and make an accurate report of said survey, setting forth such a description of landmarks as may be necessary to enable the said board, or their successors, to find and ascertain the boundary lines of the said natural oyster beds, bars and rocks, as shown by a delineation on the maps and charts provided in this Act; said report shall be completed and filed in the office of the board in the city of Annapolis within ninety days after the completion of the survey of any county. Said commissioners shall cause the same to be published in pamphlet form, and transmit copies of the said to the Clerks of the Circuit court for the respective counties, where the charts have been filed or directed to be filed as hereinafter provided; the said report to be filed by the clerks of the several counties in a book kept for that purpose. And the said survey and report, when filed, subject to the right of appeal hereafter provided for in this Act, shall be taken in all of the courts of this State as conclusive evidence of the boundaries and limits of all natural oyster beds, bars and rocks, lying within the waters of the county wherein such survey and report are filed, and shall be construed to mean in all of the said courts that there are no natural oyster beds, bars or rocks lying within the waters of the counties wherein such report and survey are filed other than those embraced in the survey authorized by this Act, and that all areas of the Chesapeake Bay and its tributaries within the State of Maryland, not shown in the survey to be natural oyster beds, bars or rocks shall be construed in all the courts of the State to be barren bottoms and open for disposal by the State for the purpose of private planting or propagation of oysters thereon

under the provisions of this Act; provided, that the said survey and report shall not be construed as to affect in any manner the holdings by citizens of this State in any lot which may have been appropriated or taken up under the laws of this State prior to the approval of this Act.

The law of the State of Maryland, passed March 9, 1842, authorizing officers of the United States Coast and Geodetic Survey to enter upon the lands within the State limits for the purposes of the survey, is as follows:

AN ACT Concerning the Survey of the Coast of Maryland.

SECTION 1. *Be it enacted by the General Assembly of Maryland*, That it shall and may be lawful for any person or persons employed under and by virtue of an act of the Congress of the United States, * * * at any time hereafter to enter upon lands within this State for the purpose of exploring, surveying, triangulating, or leveling, or doing any other matter or thing which may be necessary to effect the objects of said act, and to erect any works, stations, buildings, or appendages requisite for that purpose, doing no unnecessary injury to private or other property.

SEC. 2.[1] *And be it enacted*, That in case the person or persons employed under the act of Congress aforesaid, can not agree with the owners or possessors of the land so entered upon and used as to the amount of damage done thereto by reason of the removal of fences, cutting of trees or injury to the crop or crops growing on the same, it shall and may be lawful for the said parties or either of them to apply to the chief justice for the time being or one of the associate judges of the judicial district in which such land may be situated, who shall thereupon appoint three disinterested and judicious freeholders, residents of the same judicial district, to proceed with as much despatch as possible to the examination of the matter in question, and the faithful assessment of the damages sustained by the owners or possessors aforesaid, and the said freeholders or a majority of them, having first taken and subscribed an oath or affirmation before the chief or associate justice aforesaid or other person duly authorized to administer the same, that they will well and truly examine and assess as aforesaid, and having given five days' notice to both parties of the time of their meeting, shall proceed to the spot, and then and there upon their own view and if required, upon the evidence of witnesses (to be by them sworn or affirmed and examined), shall assess the said damages, and shall afterward make report thereof and of their proceedings in writing under their hands and seals and file the same within five days thereafter in the office of the clerk of the county in which the land aforesaid is situated, subject to an appeal by either party to the county court of the said county within ten days after filing as aforesaid, and the said report so made as aforesaid if no appeal as aforesaid be taken, shall be held to be final and conclusive as between the said parties, and the amount so assessed and reported shall be paid to the said owners or possessors of the land so damaged within twenty days after the filing of said report, and the said chief or associate justice as aforesaid, shall have authority to tax and allow upon the filing of said report, such costs, fees and expenses to the said freeholders for the performance of their duty as he shall think equitable and just, which allowance shall be paid by the person or persons employed under the act of congress aforesaid, within the time last above limited, but if an appeal as aforesaid be taken, the case shall be set down for hearing at the first term of county court aforesaid, ensuing upon and after appeal, and it shall be lawful for either party immediately after the entry of such appeal, to take out summons for such witnesses as may be necessary to be examined upon the hearing aforesaid, and the said court shall have power in its discretion to award costs against which ever the final judgment shall be entered, and such appeal at the option of either party may and shall be heard before and the damage assessed by a jury of twelve men to be taken from the regular panel and elected as in other cases.

SEC. 3. *And be it enacted*, That if any person or persons shall wilfully injure or deface or remove any signal, monument or building or any appendage thereto, erected, used or constructed under and by virtue of the act of congress aforesaid, such person or persons so offending shall severally forfeit and pay the sum of fifty dollars with costs of suit to be sued for and recovered by any person who shall first prosecute the same before any justice of the peace of the county where the person so offending may reside, and shall also be liable to pay the amount of damages thereby sustained, to be recovered with costs of suit in an action on the case, in the name and for the use of the United States of America, in any court of competent jurisdiction.

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[1] Under the rulings of the Comptroller of the Treasury no damages can be collected except through the United States Court of Claims unless an agreement has been made in advance.

Appendix B.—THE HAMAN OYSTER CULTURE LAW.

[Extract from Second Report of Shell Fish Commission.]

OBJECT.

"The legislature in placing chapter 711 of the acts of 1906, better known as the Haman oyster culture law, upon the statute books of Maryland, had a twofold object in view:

"1. To encourage an industry in oyster culture upon the barren bottoms beneath the tidewaters of the State.

"2. To prevent the leasing of natural oyster bars for the purpose of oyster culture."

SURVEY.

"To make the leasing of barren bottoms possible and the leasing of natural bars impossible, provision was made for a survey of the natural bars for the purpose of accutately locating and marking the same. It was definitely provided that no barren bottoms should be leased in any part of the State until the natural bars of that region had been surveyed, charted, and marked with buoys."

Definition of a Natural Oyster Bar.

NATURAL BAR NOT DEFINED.

"The Shell Fish Commission is instructed by section 90 of the Haman oyster culture law to exercise its judgment liberally in favor of the natural bars when surveying, charting, and buoying them, but other than this the commission is uninstructed in this important matter. The responsibility of defining a natural bar is placed upon the commission."

DIVERSITY OF OPINION.

"No definition of a natural oyster bar could be formulated by any man or body of men which would meet with the approval of all parties concerned. Oystermen, as a rule, hold that all bottoms where oysters grow or have grown naturally, even though now practically barren of oysters, should be considered natural bars. Other citizens of the State, who are not directly interested in the oyster business but interested in the oyster industry from the standpoint of revenue, hold, as a rule, that no bottoms should be excluded from leasing for oyster culture which by methods known to oyster culturists may be made to yield a greater number of oysters than they now produce.

"It should be evident to everyone that neither of these definitions could be adopted by the commission as a working basis for determining which of the grounds surveyed are natural oyster bars."

THE GOLDSBOROUGH DEFINITION.

The definition of a natural oyster bar which very nearly approaches a reasonable and satisfactory compromise between the views of the subject held by oystermen on one hand and by oyster culturists on the other is that contained in an opinion rendered by Judge Charles F. Goldsborough in the circuit court for Dorchester County in the July term, 1881, in the case of William T. Windsor and George R. Todd *v.* Job T. Moore.

This definition has been adopted by the Shell Fish Commission as the basis for the determination of the status of the various oyster bottoms surveyed, and is as follows:

What, then, is a natural bar or bed of oysters? It would be a palpable absurdity for the State to attempt to promote the propagation and growth of oysters and to encourage its citizens, by a grant of land, to engage in their culture, if the lands authorized to be taken up were only those upon which oysters do not and can not be made to grow. That there may be lands covered by water in the State where no oysters can be found, but where, if planted, they could be cultivated successfully, may be possible; but if so, I imagine that their extent must be too limited for them to be of much practical general advantage for the purposes of such a law as the one under discussion; but there are thousands of acres of hard and shifting sands where oysters not only are not found, but where it would be folly to plant them, and these latter it can not be supposed that the State intended to offer to give away, for the simple reason that the State could not help knowing that nobody would have them.

Upon the other hand there are large and numerous tracts where oysters of natural growth may be found in moderate numbers, but not in quantities sufficient to make it profitable to catch them, and yet where oysters may be successfully planted and propagated. In my opinion these can not be

called natural bars or beds of oysters within the meaning of the act of assembly, and it is just such lands as these that the State meant to allow to be taken up under the provisions of the above-mentioned section of the act.

But there is still another class of lands where oysters grow naturally and in large quantities and to which the public are now and have been for many years in the habit of resorting with a view to earning a livelihood by catching this natural growth, and here, I think, is the true test of the whole question. Land can not be said to be a natural oyster bar or bed merely because oysters are scattered here and there upon it and because if planted they will readily live and thrive there; but whenever the natural growth is so thick and abundant that the public resort to it for a livelihood, it is a natural oyster bar or bed and comes within the above-quoted restriction in the law, and can not be located or appropriated by any individual.

APPLICATION OF DEFINITION.

Before this definition may be of use in determining accurately and scientifically the status of an oyster ground, its central idea, "livelihood," must be expanded into accurately determinable factors, and these factors must be combined into a practical scheme of investigating the condition of the ground under consideration.

Stated briefly, a livelihood is represented by a sum of money obtained from the sale, at a fixed price, of a certain quantity of oysters gathered in a given time from an allotted area of ground.

Knowing the value of each of these factors, it becomes possible to calculate the number of oysters an oyster ground must produce per square yard in order that oystermen may secure a livelihood by working upon it.

NOTE.—The factors into which the commission resolved the livelihood problem, the value assigned to each factor, and the scheme devised for practical use in examining and applying the definition to oyster bottoms are given in outline in their second report under the heading of the preceding extract, and in detail in their first report on pages 32 to 69.

APPENDIX C.—SUMMARY OF THE PARTICULAR SURVEYING OPERATIONS WHICH CONSTITUTE AN "OYSTER SURVEY" AS NOW BEING CARRIED ON IN MARYLAND.

Explanation.—A brief account of the particular surveying operations which constitute an "oyster survey" as now being carried on in Maryland, will assist in the interpretation of records contained in the technical part of this report, and will be of interest to many who may not understand the necessity for the great amount of work being done or its complicated character.

To those familiar with methods used in surveying and charting the characteristic features of large bodies of water there is an evident necessity for the various operations performed, especially when it is known that the boundaries of the public oyster bars and of the private lots leased for purposes of oyster culture must be surveyed and charted with the greatest practical accuracy. To others it will be sufficient to state that the actual experience gained from oyster surveys in other States has proven that in order to avoid endless dissatisfaction and litigation it is necessary to accurately locate and permanently establish oyster boundaries as is now being done in Maryland.

Triangulation survey.—Such refinement of survey work as that demanded by the conditions of an oyster survey when carried on at considerable distances offshore can only be obtained by the use of a system of triangulation as a framework or foundation. Therefore, a triangulation survey, including the permanent marking of the positions of landmarks with monuments, and a record of the descriptions of their locations for future recovery is a necessary operation of a complete oyster survey.

Topographic survey.—The technical records which establish the relation between the offshore oyster boundaries and triangulation landmarks are sufficient for the requirements of engineers in making resurveys, but do not supply the needs of others who are interested in the same boundaries by reason of their occupation as oystermen concerned as to the public oyster bars, or oyster culturists concerned as to the leasable bottoms. For these it is necessary to have the charts of the survey show the relation of the shore line and other topographic features to the boundaries of the public oyster bars and private oyster farms. Therefore a topographic survey is a necessary operation of a complete oyster survey.

Hydrographic survey.—In the settlement of the important question of what is or what is not a natural oyster bar, and in the consideration of bottoms to be selected for purposes of oyster culture, information as to the depth of water and the character of the bottom is required. Therefore a hydrographic survey is a necessary operation of a complete oyster survey.

Necessary foundation for an oyster survey.—Consequently, the necessary components of a satisfactory foundation for a complete oyster survey are the three classes of survey operations technically named triangulation, topography, and hydrography, or, stated in another way, the foundation of a practical oyster survey includes the surveying operations usually followed by the Coast and Geodetic Survey leading up to the preparation and publication of nautical charts.

Special surveys and investigations pertaining to oysters.—Having obtained this cartographic survey for a foundation, partly by new work and partly from records of previous work of the Government, the combined operations[1] making up an "oyster survey" are completed by superimposing on this foundation special surveys and investigations pertaining particularly to oysters or other shell fish.

The special surveys pertaining to oysters furnish information as to the location and outline of oyster-shell bottoms, and are carried on by the sounding-boat party in addition to the usual hydrographic work.[2] This operation consists of the observation and record of the character of vibration of a wire and chain apparatus which is dragged over the bottom, the vibrations or lack of vibrations indicating the presence and quantity of shells or absence of shells.

The special oyster investigations[3] consist of the actual determination of the kind and quantity of oysters on the bottom, and such economic and biological studies of the supply of oyster food, density of water, character of the bottom, and other important matters as affect the growth of oysters. In this work the oyster investigation stations are located and buoyed by the hydrographic party while engaged in the survey of the oyster-shell limits. They are selected with the view of obtaining characteristic data which can be used for the interpretation of the recorded vibrations of the chain apparatus at all other points covered by the survey.

Preparation of results.—The actual surveying operations and oyster investigations having been completed for any one county, there still remains technical work of nearly equal magnitude to that described.[4] This work consists of the preparation of charts and technical descriptions of boundaries and landmarks for publication by the Government, the preparation of that part of the annual report of the commission covering the special oyster surveys and investigations, the making of the leasing charts and finished projections, and finally the filing of the oyster charts and records with the courts and the commission, thus opening a county for oyster culture.

Summary.—From the foregoing account it can be seen that a complete oyster survey properly conducted so as to answer all practical requirements of the present and permanency of results for the future is a very complicated affair, involving many lines of surveying and other scientific work, and requiring the professional services of experts in the various operations of cartographic surveying and shell-fish investigations.

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[1] See Appendix D of this publication for "Statistics of results of combined operations of the Government and State."

[2] See pp. 104 to 123 of "First Annual Report of Maryland Shell Fish Commission."

[3] See pp. 30 to 67 and 129 to 199 of "First Annual Report of Maryland Shell Fish Commission."

[4] No mention is made here of the large amount of administrative work of the commission, which is greatly complicated and increased by the effect of the oyster-survey operations on many thousands of people whose interests are more or less involved; or of the large amount of survey work involved in the survey and record of the boundaries of oyster lots leased from the State by private individuals for the purposes of oyster culture.

APPENDIX D.—STATISTICS OF RESULTS OF THE COMBINED OYSTER SURVEY OPERATIONS OF THE GOVERNMENT AND STATE.[1]

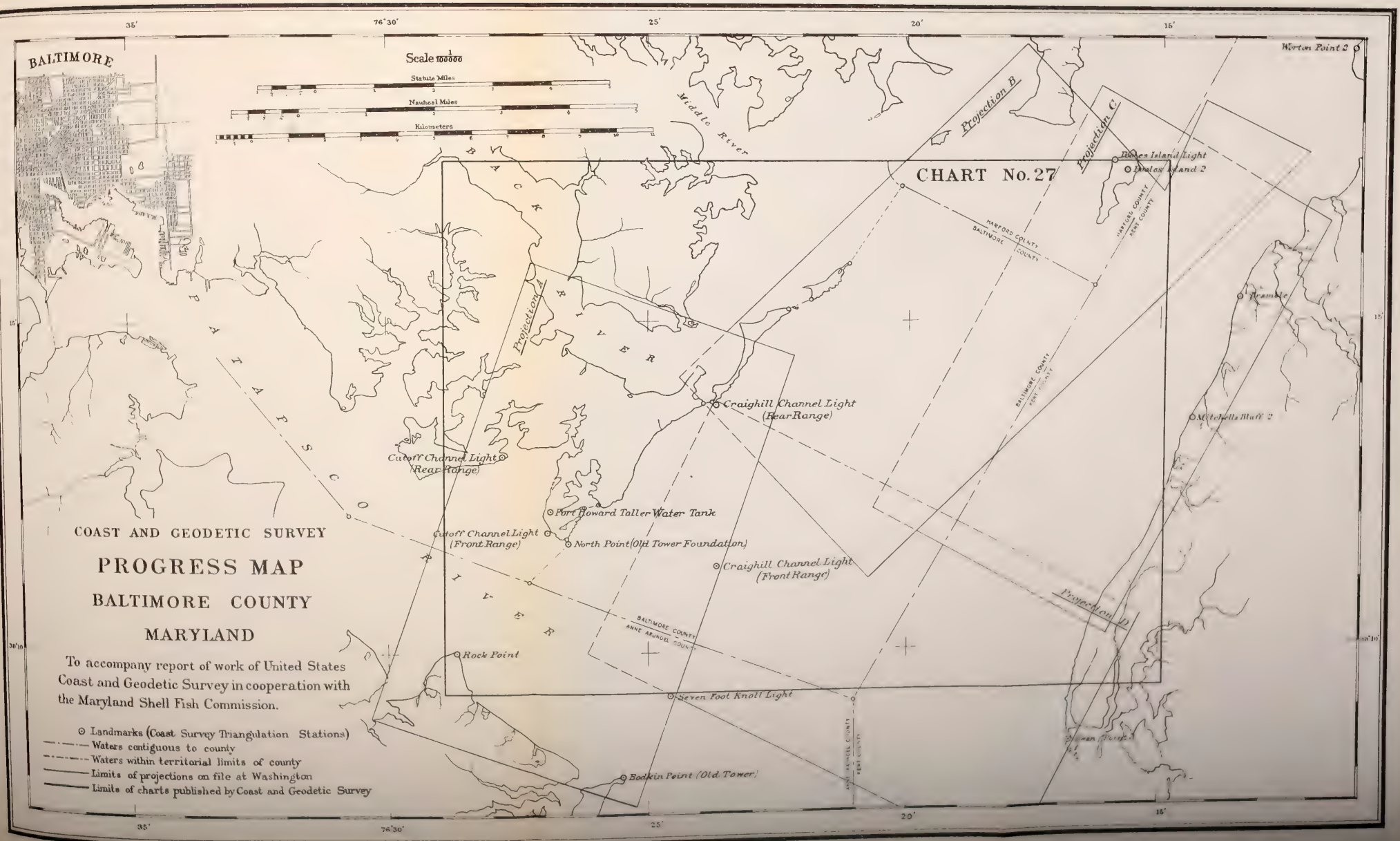
Operations	Anne Arundel County	Somerset County	Wicomico County	Worcester County	Calvert County	Charles County	St. Marys County	Baltimore County	Total[2]
Beginning of field work	June 29, 1906	May 2, 1907	Aug. 27, 1907	Nov. 8, 1907	May 2, 1908	Aug. 18, 1908	May 2, 1908	Apr. 14, 1909	.....
Filing of certified charts and reports	June 20, 1907	July 1, 1908	Dec. 1, 1908	Apr. 12, 1909	Dec. 14, 1909	Jan. 27, 1911	July 6, 1911	Aug. 10, 1911	.....
Natural oyster bars surveyed and delineated	91	37	15	28	41	15	124	3	354
Acres of natural oyster bars	33,666	27,566	2,038	1,655	12,303	2,285	25,778	3,010	[3]108,301
Crab bottoms surveyed and delineated	.....	54	.....	.....	.....	.....	.....	.....	54
Acres of crab bottoms	.....	32,108	.....	.....	.....	.....	.....	.....	32,108
Clam beds surveyed and delineated	.....	1	.....	.....	.....	.....	.....	.....	3
Acres of clam beds	.....	506	.....	.....	.....	.....	.....	.....	506
Boundary buoys located and planted	362	154	53	108	149	61	513	13	1,403
Triangulation landmarks established	123	86	30	48	78	42	288	15	515
Miles of shore line covered by triangulation	110	125	46	95	95	32	100	12	599
Square miles of water covered by triangulation	220	375	44	110	157	20	180	50	1,062
Miles of examination of shell bottom with chain apparatus	869	296	58	63	250	58	400	33	1,507
Oyster investigation stations occupied	440	679	162	147	667	113	1,472	64	3,744
Tide stations established	4	3	1	1	2	1	7	1	20
Number of soundings over shell bottoms	37,049	17,904	3,387	3,649	11,292	1,631	19,344	1,080	95,336
Square miles covered by soundings and chain apparatus	58	47	3	3	30	4	57	6	198
Projections prepared and plotted	9	13	2	5	8	3	15	4	51
Leasing charts prepared	13	12	2	3	5	2	10	1	44
Oyster charts published	4	6	2	3	5	1	8	1	27
Reports published	2	2	2	2	2	2	2	2	10
Progress maps published	2	2	2	2	2	2	2	1	10

[1] These statistics do not include the large amount of triangulation, topography, and hydrography resulting from previous work of the Coast and Geodetic Survey, which was utilized in the preparation of the published oyster charts and records. Work in Kent, Queen Annes, Talbot, and Dorchester Counties has been finished, but final statistics of results will not be published until these counties are opened for oyster culture.

[2] Less quantities covered by statistics of more than one county.

[3] Total area of natural oyster bars of Connecticut, 5,770 acres.

15'
Worton Point 2
BAI
B
Projection C
Boles Island Light
Boles Island 2
NO. 27
HARFORD COUNTY
KENT COUNTY
COUNTY
COUNTY
Bramble
15'
15'
BALTIMORE COUNTY
KENT COUNTY
Mitchells Bluff 2
Projection D
39°10'
39°10'
Swan Point 3
15'



COAST AND GEODETIC SURVEY

PROGRESS MAP

BALTIMORE COUNTY

MARYLAND

To accompany report of work of United States Coast and Geodetic Survey in cooperation with the Maryland Shell Fish Commission.

⊙ Landmarks (Coast Survey Triangulation Stations)
Waters contiguous to county
Waters within territorial limits of county
Limits of projections on file at Washington
Limits of charts published by Coast and Geodetic Survey

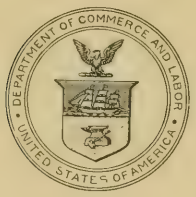
DEPARTMENT OF COMMERCE AND LABOR
COAST AND GEODETIC SURVEY
O. H. TITTMANN, Superintendent

SURVEY OF OYSTER BARS

CALVERT COUNTY
MARYLAND

DESCRIPTION OF BOUNDARIES AND LANDMARKS AND REPORT OF WORK OF UNITED STATES COAST AND GEODETIC SURVEY IN COOPERATION WITH UNITED STATES BUREAU OF FISHERIES AND MARYLAND SHELL FISH COMMISSION

By C. C. YATES
CHIEF OF COAST AND GEODETIC SURVEY PARTY
ASSISTANT, COAST AND GEODETIC SURVEY



WASHINGTON
GOVERNMENT PRINTING OFFICE
1910

LETTER OF SUBMITTAL.

DEPARTMENT OF COMMERCE AND LABOR,
COAST AND GEODETIC SURVEY,
Washington, December 21, 1909.

SIR: I have the honor to transmit herewith a report of the officer detailed from the Coast and Geodetic Survey to cooperate with the Bureau of Fisheries and the Maryland Shell Fish Commission in surveying the oyster bars of the State of Maryland, and certain technical results which are necessary for the interpretation and use of the plats of the survey made by the Government.

This work has been done under the provisions of the act of Congress entitled "An act to authorize the Secretary of Commerce and Labor to cooperate, through the Bureau of the Coast and Geodetic Survey and the Bureau of Fisheries, with the shell fish commissioners of the State of Maryland in making surveys of the natural oyster beds, bars, and rocks in the waters within the State of Maryland," approved May 26, 1906, and of the acts of Congress making appropriations for sundry civil expenses of the Government for the fiscal years ending June 30, 1907, 1908, 1909, and 1910.

Respectfully,

O. H. TITTMANN, *Superintendent.*

To Hon. CHARLES NAGEL,
Secretary of Commerce and Labor.

CERTIFICATION.

BALTIMORE, MD., *December 10, 1909.*

The following publication is certified to contain correct technical descriptions of all boundaries and landmarks established in Calvert County by the Maryland Shell Fish Commission in cooperation with the United States Coast and Geodetic Survey.

C. C. YATES,
Chief of Coast and Geodetic Survey Party,
Assistant, Coast and Geodetic Survey.

BALTIMORE, MD., *December 10, 1909.*

Examined and certified to be correct.

WALTER J. MITCHELL,
CASWELL GRAVE,
BENJAMIN K. GREEN,
Maryland Shell Fish Commission.

SWEPSON EARLE,
Hydrographic Engineer.

NOTE.—Certified copies of this publication and of the charts of the natural oyster bars of Calvert County were filed in the office of the clerk of the circuit court of Calvert County and in the office of the Board of Shell Fish Commissioners, at Annapolis, on December 14, 1909.

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SURVEY OF OYSTER BARS, CALVERT COUNTY, MD.

INTRODUCTION.

PUBLICATIONS.

The preparation of publications relating to the survey of the oyster bars of Maryland has been divided between the Government and the State in accordance with the laws [a] authorizing the work and the natural division of the surveying operations [b] of the cooperating forces.

The publications prepared and issued by the Government under the direction of the Superintendent of the Coast and Geodetic Survey consist of a series of charts and a technical report for each county surveyed.[c] The charts show all legal boundaries of oyster bars within the adopted boundaries of the waters opened up for leasing with each county, and the location of all landmarks (Coast and Geodetic Survey triangulation stations) used as a foundation for the delineation of these various boundaries. The technical report gives technical and legal descriptions of all oyster-bar and other boundaries, and descriptions of all landmarks shown on the charts, and includes the report of the representative of the Coast and Geodetic Survey in charge of the work of that Service in cooperation with the Bureau of Fisheries and the Maryland Shell Fish Commission. These charts and technical reports are prepared and certified for file with the courts and the Commission, as required by the laws of the State, and contain all information necessary to make a permanent record of the work of the Commission and the Government for all future requirements of the courts, or for any resurveys that may become necessary.[d]

The publications prepared and issued by the State under the direction of the Shell Fish Commission consist of annual reports [e] of all the operations of the Commission

[a] See Appendix A for laws relating to the cooperation of the Coast and Geodetic Survey and Bureau of Fisheries with the Maryland Shell Fish Commission.

[b] See Appendix C for a summary of the particular surveying operations which constitute an "oyster survey" as now being carried on in Maryland.

[c] These charts and technical reports can be obtained by application to the Superintendent of the Coast and Geodetic Survey, at Washington, D. C. The publications ready for issue are those for Anne Arundel, Somerset, Wicomico, Worcester, and Calvert counties; those for St. Marys and Charles counties are now being prepared.

[d] The technical records and charts for each county are published separately on account of the requirements of the oyster-culture laws of the State and the practical considerations which make it desirable to have each county "opened up" for oyster culture as soon as practicable after the completion of its survey. For these reasons and the fact that these reports are each arranged for distribution and use in one county only without reference to other published records, much of the text of this publication is of necessity identical with similar previous publications for other counties.

[e] These reports can be obtained by application to the Shell Fish Commission, Annapolis, Md. They are issued annually in October, and the first and second reports are now available for distribution.

performed under the provisions of the laws of Maryland,[a] including results of biological and economic oyster investigations, methods and results of the hydrographic survey of the boundaries of oyster bars and crab bottoms, the administrative report and financial statement of the Commission, information relating to oyster culture, methods of surveying and leasing of oyster lots, and much other important matter of legal and scientific value.

These two sets of publications are planned and arranged to supplement each other without unnecessary duplication, and when combined they form a complete report of operations, methods, and results of the work of both the Government and State.[b]

COOPERATION OF THE COAST AND GEODETIC SURVEY.

The work of the Coast and Geodetic Survey, as the name of the Service indicates, includes a survey of the coasts of the United States made on a geodetic basis. This has involved the gradual construction of a great framework of interstate triangulation for use as a foundation for detail hydrographic and topographic surveys, from which there has been compiled and published a complete set of charts of the coasts of the United States, including all waters of Maryland where oysters grow. This existing triangulation, hydrography, and topography is essential as a foundation for a correct and practical survey of natural oyster bars; and it being one of the fundamental functions of the Coast and Geodetic Survey to furnish such data, the cooperation of the Coast and Geodetic Survey with the Bureau of Fisheries and the Maryland Shell Fish Commission is a practical and natural development of Government work leading to the conservation and increase of the supply of food.

COOPERATION OF THE BUREAU OF FISHERIES.

The Bureau of Fisheries has cooperated with the Coast and Geodetic Survey and the Maryland Shell Fish Commission principally as an adviser in matters relating to the biological and economic survey of oyster bars and the methods to be employed for that purpose.[c] A steam launch, rowing boat, and certain apparatus have also been furnished.

The primary function of the Bureau of Fisheries is to increase the productiveness of marine and fresh waters by such measures as may be best suited to the purpose, and the services rendered in connection with the survey of the oyster bars of Maryland are strictly in line with the fundamental law under which it acts. In certain States other than Maryland similar work has been conducted by the Bureau acting independently, the same ends being attained at greater expense to the Government.

GENERAL STATEMENT OF WORK OF COAST AND GEODETIC SURVEY.[d]

The results obtained from the work of the Coast and Geodetic Survey in cooperation with the Bureau of Fisheries and the Maryland Shell Fish Commission need very

[a] See Appendix B for an extract from the "Second Report of the Maryland Shell Fish Commission," giving a concise summary of the "Haman Oyster Culture Law."

[b] See Appendix D of this publication for "Statistics of results of combined operations of the Government and State."

[c] Hon. George M. Bowers, Commissioner of Fisheries, has detailed for this service Dr. H. F. Moore, Assistant, Bureau of Fisheries.

[d] For a detail statement of the very large amount of excellent oyster survey work of the Maryland Shell Fish Commission see the "Annual Reports of the Maryland Shell Fish Commission."

little other summary than is indicated by the published "Charts of Natural Oyster Bars" and the scheme of hydrographic projections and triangulation stations shown on the county progress maps attached to each report.

The triangulation has been carried on in accordance with the standard methods of the Coast and Geodetic Survey, making this work and that of the "Descriptions of Triangulation Stations" of permanent value, not only to the State of Maryland in the survey of her oyster bars, but also to the Government for any future work it may do in the regions covered by the oyster-survey operations.

The boundaries of the various shellfish bottoms in relation to landmarks and the adjacent topography have been shown with all the accuracy permitted by the large-scale oyster charts published especially for that purpose.

The technical and legal descriptions of the boundaries and the description of the location of landmarks have been prepared and published in such a manner as to minimize the probability of future disputes in reference to their location.

Stated another way and quoting from the report of the "Survey of Oyster Bars of Anne Arundel County:"

> The geographic positions of the permanent landmarks and signals have been determined with the usual precision of a trigonometric survey, and their locations at all points necessary to provide ample foundation for the surveying and charting operations permitted great accuracy of definition and location for the natural oyster bar and other boundaries established. At the same time, the very important element of permanency of the positions of boundaries has been secured, as the relocation of geodetic positions can always be accomplished by a competent surveyor, even though the original landmarks and monuments have been washed away, as has been the fate of hundreds of such points established by the Coast and Geodetic Survey on the shores of the Chesapeake Bay during the last sixty-five years.

In fact, when the survey of the oyster bars of Maryland is completed, it is believed that it will stand the test of time and practical use as a working foundation for whatever form the oyster legislation of the future may assume, and that the doing of the work systematically and accurately, once for all, will lead finally to the development of a great natural food resource in the form of real oyster culture which will bring ample reward for all expenditures of the "oyster survey."

REPORT OF THE WORK OF THE COAST AND GEODETIC SURVEY IN CALVERT COUNTY.

INSTRUCTIONS.

The following two letters, together with the laws[a] of the United States relating to the subject, constitute the "instructions" received by the chief of the Coast and Geodetic Survey party engaged on work in connection with the Maryland Shell Fish Commission. They are short and definite, but furnish ample authority and leeway for all legitimate development of the cooperation of the Government and the State in the survey of oyster bars. The "free hand" permitted by these orders, together with the aid and many valuable suggestions received from the officers of the Survey at Washington, have proved very beneficial to the work, and are greatly appreciated.

DEPARTMENT OF COMMERCE AND LABOR,
OFFICE OF THE SECRETARY,
Washington, June 2, 1906.

SIR: In reply to your letter of May 28, requesting me to designate officers of the Coast and Geodetic Survey and of the Bureau of Fisheries to cooperate with the State of Maryland in making survey of and locating the natural oyster beds, I have the honor to inform you that Mr. C. C. Yates will be designated to cooperate on the part of the Coast and Geodetic Survey as soon as Congress makes the provisions of the act effective by providing an appropriation for the purpose.

Respectfully,

LAWRENCE O. MURRAY, *Assistant Secretary.*

His Excellency Hon. EDWIN WARFIELD,
Governor of Maryland, Annapolis, Md.

DEPARTMENT OF COMMERCE AND LABOR,
COAST AND GEODETIC SURVEY,
Washington, July 3, 1906.

SIR: Upon the receipt of these instructions you will surrender the command, accounts, etc., of the steamer *Endeavor* to the Hydrographic Inspector. * * *

As soon as this transfer is completed you will enter upon the duties of Coast Survey representative on the Shell Fish Commission of Maryland.

You will consult the commissioners, prepare a programme of work, and submit estimates in the usual form.

You are authorized to come to Washington for consultation from time to time as may be necessary.

* * * * * * *

Very respectfully,

O. H. TITTMANN, *Superintendent.*

Capt. C. C. YATES,
U. S. C. and G. S. Steamer Endeavor, Baltimore, Md.

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[a] For these laws see Appendix A.

ORGANIZATION AND EQUIPMENT.

The personnel and occupation of the party of the Coast and Geodetic Survey have remained practically unchanged since the beginning of the "oyster survey." Besides the chief of party, it consists of the necessary triangulators, computers, draftsmen, and temporary employees required to carry on both the surveying operations in the field and the preparation for publication of oyster charts and technical records in the Office at Washington.

The equipment for the work of the party has been ample and satisfactory. The large living and office quarters furnished the Government on the Maryland Shell Fish Commission house boat *Oyster* have been very convenient for the work, besides facilitating efficient cooperation with the surveying and oyster investigation parties of the State. In addition to the accommodations on the *Oyster* the Coast and Geodetic Survey party has had the constant use of the large steam launch *Inspector* and several other boats furnished by their own Service, and the occasional use of the Bureau of Fisheries launch *Canvasback* [a] and the steamer *Governor McLane* [b] of the State fishery force.

The greater part of the equipment of instruments for the operations of both the Government and State have been furnished by the Coast and Geodetic Survey and consist of all necessary theodolites, levels, sextants, drafting instruments, hydrometers, etc., required for all field and office work.

CHRONOLOGICAL STATEMENT OF WORK.

The field work of the Coast and Geodetic Survey in Calvert County [c] dates from May 2, 1908, when the house boat *Oyster* left Baltimore for an anchorage in the Patuxent River, inside of Solomons Island. She remained in this harbor for three months, it practically being the only suitable anchorage for the work for the entire Chesapeake Bay shore of Calvert County, as well as for the lower Patuxent River. During this period there was a great amount of windy weather and consequent rough seas, which prevented work in the open bay, and in general the triangulation foundation for the oyster survey made very slow progress.

On August 4, 1908, the part of the work necessarily done from the mouth of the Patuxent River was completed, and the *Oyster* was moved about 7 miles up the river to St. Leonards Creek.

On August 18, 1908, the headquarters for the field work was again changed by moving the house boat *Oyster* 8 miles still farther up the river to an anchorage in Battle Creek, where she remained until the completion of that part of the field work which naturally included all the Patuxent River work of Charles and St. Marys counties as well as that of Calvert County, although the results are published separately.

On September 3, 1908, the house boat finally left the Patuxent River for a new anchorage in a tributary of the Potomac River, and the field work of Calvert County

[a] By courtesy of Dr. H. F. Moore, U. S. Bureau of Fisheries.

[b] By courtesy of Capt. James A. Turner, commanding.

[c] The field work of Calvert, Charles, and St. Marys counties was so intermixed in the Patuxent River that the chronological statement of work for any one of these counties necessarily includes a considerable part of the work of the other two counties.

was dropped from that date until July 27, 1909, when it was again taken up for a period of four days to add a few details of the triangulation required for the descriptions of stations.

On December 2, 1909, it was again found necessary to obtain further triangulation details for the publication of the technical report for Calvert County, and field work was carried on for that purpose from that date to December 8, 1909.

The office work connected with the "oyster survey" of Calvert County, including computations and drafting necessary for the preparation of oyster charts and technical records for publications, was continued intermittingly with the office work of other counties surveyed during same season from the beginning of field work of Calvert County to the time of the filing of the certified oyster charts and reports in the archives of the Commission and with the clerk of the circuit court of Calvert County on December 14, 1909.

STATISTICS.[a]

Landmarks and triangulation signals erected	69
Monuments planted to mark triangulation stations	67
Triangulation stations occupied for observations of horizontal angles	52
Old triangulation stations recovered	20
New triangulation stations established	58
Total old and new triangulation stations marked and described	78
Linear miles of shore line covered by triangulation (approximate)	95
Square miles covered by triangulation (approximate)	157
Hydrographic projections prepared and completed as records of oyster boundaries	8
Triangles computed	152
Geographic positions computed	59
Corners of oyster boundaries established by computation	205
Back azimuths and distances computed from corners of boundaries to triangulation stations	615
Descriptions of triangulation stations prepared for publication	78
Descriptions of oyster boundaries prepared for publication	41
"Charts of Natural Oyster Bars" prepared for publication	5
Progress map prepared for publication	1

GENERAL REMARKS.

Before ending this report the representative of the Coast and Geodetic Survey wishes to renew his statement of appreciation of the courteous assistance received from various Government and State officials and others interested in the oyster industry of Maryland, especially to the following:

To his colleague from the Department of Commerce and Labor, Dr. H. F. Moore of the Bureau of Fisheries, whose well-known scientific knowledge of all matters relating to oysters has been of great value to the work.

[a] These statistics only include field and office work directly performed by the party of the Coast and Geodetic Survey in connection with the oyster survey of Calvert County, and do not include the many thousands of soundings and examinations of the character of the bottom made by the engineers of the Commission, which are of considerable value to the Coast and Geodetic Survey as hydrographic records for future use in connection with the preparation of new editions of charts of the waters of Maryland. See Appendix D of this publication for "Statistics of results of combined operations of the Government and the State."

To Mr. Walter J. Mitchell, chairman of the Maryland Shell Fish Commission, who, by his administrative ability in carrying out the complicated requirements of the oyster laws and by his unfailing tact, has made the cooperation of the various services engaged on the work both agreeable and effective.

To Dr. Caswell Grave, secretary of the Commission, who, as editor of the Commission's annual report and Commissioner in charge of the biological and economic oyster investigations, has been brought into constant contact with the Government work and aided its operations in every way.

To Mr. Benjamin K. Green, treasurer of the Commission, who has looked after the equipment and commissary of the house boat in such a way as to add greatly to the comfort and convenience of the party of the Coast and Geodetic Survey.

To Mr. Swepson Earle, hydrographic engineer to the Commission, whose knowledge of the work from former service in the Coast and Geodetic Survey has greatly facilitated his practical use of the technical data furnished by the Government.

To Mr. Thomas H. Robinson, counsel to the Commission, for courteously furnishing valuable information relating to county boundaries.

And to the many others connected with the Commission or who as residents in the locality where the work was being carried on have greatly assisted by furnishing important information or willing services.

CHARTS AND MAPS.

CHARTS OF NATURAL OYSTER BARS.

The charts [a] of the natural oyster bars of Calvert County, published by the Coast and Geodetic Survey from results of surveys of the Government in cooperation with the Maryland Shell Fish Commission, consist of five sheets covering a portion of the waters of Chesapeake Bay and all of Patuxent River, including all oyster-producing bottoms of Calvert County. They are published on a scale of 1 part in 20,000 (approximately 3⅓ inches to a statute mile) and are constructed on polyconic projections and based on the United States standard datum of the Coast and Geodetic Survey.

These charts show all oyster bars and other boundaries established by the Commission, and are certified for the purpose of filing in the office of the clerk of the circuit court of Calvert County and in the office of the Commission at Annapolis, as required by the oyster laws of Maryland.

In addition to the oyster-bar and other boundaries, the charts show the location and name of all landmarks (U. S. Coast and Geodetic Survey triangulation stations) used in making the survey, together with the hydrography and topography [b] necessary to make the technical definitions and delineations of boundaries readily understandable both by the people engaged in the oyster industry and the general public who may become interested through leasing of barren bottoms for oyster culture.

The names of the oyster bars are those used locally, as nearly as could be ascertained by the hydrographic engineer of the Commission. When there was no local name in common use, a name was selected from one of the prominent features of the vicinity. By the use of recognized names or those that would naturally suggest certain sections of water, it is believed that much confusion will be avoided in the location on the charts of the oyster bars, especially by those not familiar with the use of maps.

The corners of the oyster bars are numbered from 1 to the total number of corners in each area under consideration. Where boundaries adjoin, making one point a corner of two or more oyster bars, these points have two or more numbers, each number corresponding to the bar in which the figure is located. The numbers of the corners correspond with the technical and legal descriptions of this publication under the heading "Boundaries of natural oyster bars."

The landmarks and oyster bars have been grouped in the "Contents" of this publication in accordance with the charts upon which they are shown. To find a particular oyster bar or landmark which is only known by name, consult the "Contents" and

[a] These charts can be obtained by application to the Superintendent of the Coast and Geodetic Survey, at Washington, D. C.

[b] Much of the detail of the inshore topography was obtained from the excellent map of Calvert County prepared and published by the Maryland Geological Survey under the direction of Dr. William Bullock Clark from surveys of the Maryland Geological Survey in cooperation with the U. S. Geological Survey.

the desired chart and general location will be indicated. To find the name of a bar or landmark which is only known by location, consult the progress map at the end of this publication for the number of the chart on which it is to be found, and then examine the known locality on the chart for the name of the bar or landmark in question.

The contours on the charts showing the depth of water at mean low tide have been taken from the hydrographic sheets of former work of the Coast and Geodetic Survey. Four curves were selected as being the most convenient for taking off from the original hydrographic sheets and the ones of greatest value to those interested in shellfish industries. The 1-fathom contour (6 feet) and the 5-fathom curve (30 feet) correspond in a general way to the inner and outer limits of all the oyster bars surveyed. The 3-fathom contour (18-feet) furnishes the curve of about the average depth of water on the oyster bars and the 10-fathom contour (60 feet) serves in a general way to indicate the outer limits of probable oyster culture.

The boundaries of the waters within the "territorial limits of the county" and the boundaries of the "waters contiguous to the county" opened up for the leasing with Calvert County are plainly indicated on the charts. A full technical description of these boundaries is given in this publication under the heading "Boundaries of county waters."

The areas in acres of the oyster bars were determined under the direction of the hydrographic engineer of the Commission by two independent planimeter measurements of the areas as delineated on the smooth projections of the Coast and Geodetic Survey. These areas are given in small figures in parentheses on the face of the chart within the boundaries of the different shellfish bottoms.

The symbols used on the charts for the different kinds of boundaries, triangulation stations, contours of depth of water, etc., require no other explanation than that given in the legend and other notes on the face of the charts.

LEASING CHARTS.

The leasing charts of Calvert County, like those for Anne Arundel, Somerset, Wicomico, and Worcester counties, have been prepared under the direction of the hydrographic engineer of the Commission. These charts are constructed on polyconic projections and are based on the United States standard datum of the Coast and Geodetic Survey. They are made on the scales of 1 part in 5,000 or 1 part in 10,000, as the needs of oyster culture may require. Anne Arundel County required 13 leasing charts; Somerset County, 12 charts; Wicomico County, 2 charts; Worcester County, 3 charts; and Calvert County 5 charts, to cover their oyster bottoms.

These charts show all the oyster bars, crab bottoms, and clam beds and other boundaries established by the Commission, and also all boundaries of oyster lots leased for the purpose of oyster culture, thus making them comprehensive and valuable records of the results of the operations of the oyster-culture laws.

The lots leased under the provision of the "old 5-acre law" are frequently of irregular shape, but the lots leased under the provision of the new oyster laws must be of rectangular shape by the terms of that act. For this latter purpose the leasing charts have been divided by parallels of latitude and meridians of longitude into small rectangles of 1 acre or 5 acres, as may be best suited to the area under consideration,

and prospective leaseholders by the rules of the Commission are compelled to select whole rectangles as far as practicable.

For reasons of the present changeable nature of the number of lots leased and the large number of charts required, the leasing charts are not likely to be published for some years, but they can be seen at any time on file at the offices of the Commission, in Annapolis.

PROJECTIONS.

The polyconic projections [a] covering Calvert County waters are 8 in number and on the scale of 1 part in 10,000. They were constructed by draftsmen of the Coast and Geodetic Survey, but the sextant positions which determine the location of the legal boundaries of the oyster bars as delineated by the Shell Fish Commission were plotted by the draftsman of the Commission.

A copy of each of these projections, with all the plotted positions of triangulation stations, shore line, sextant positions, and boundaries of oyster bars, was made under the direction of the hydrographic engineer of the Commission by pricking through with a sharp needle the intersections of the projection lines and all other points as plotted on the original sheets.

These projections (in duplicate) are the original records of all oyster-bar and other boundaries established by the Commission, one set being filed in the archives of the Coast and Geodetic Survey, at Washington, and the other set in the office of the Shell Fish Commission, at Annapolis.

PROGRESS MAPS.

The progress map to be found at the end of this publication is on a scale of 1 part in 100,000, and shows in outline the work accomplished by the U. S. Coast and Geodetic Survey in Calvert County and contiguous waters. It gives the scheme of all the charts and smooth projections constructed in connection with the survey, the location and names of all triangulation stations used as a basis for the surveying work, and the "boundaries of county waters" established by the Commission for the purpose of carrying out the laws of Maryland relating to oyster culture.

Besides indicating the amount of work done by the Coast and Geodetic Survey in connection with the work of the Shell Fish Commission, this progress map will be of special value for index purposes to engineers and others searching for the particular chart or projection covering the locality of the oyster bars or landmarks that may be under consideration.

The progress maps [b] accompanying the first and second annual reports of the Maryland Shell Fish Commission were prepared under the direction of the hydrographic engineer of the Commission. They are on the scale of 1 part in 400,000, and show the outline of the tide-water counties of Maryland, with shaded areas to indicate the waters already covered by the operations of the oyster survey.

[a] For the scheme of these projections see the progress map at the end of this publication.

[b] These maps and reports can be obtained by application to Maryland Shell Fish Commission, Annapolis, Md.

BOUNDARIES OF THE COUNTY WATERS.[a]

WATERS WITHIN TERRITORIAL LIMITS OF COUNTY.

The laws of Maryland relating to oyster culture provide that "no person shall be permitted, by lease, assignment, or in any other manner, to acquire a greater amount of land than ten acres situated within the territorial limits of any of the counties, or one hundred acres in any other place."

The boundary line[b] between the waters "within the territorial limits" of Calvert County and the waters in "any other place," as established by the Shell Fish Commission for the purpose of carrying out the oyster laws, and delineated on the charts and the smooth projections of the Coast and Geodetic Survey, is technically described and defined as follows:

Commencing at a point defined by the intersection of the mean low-water line of the western shore of Chesapeake Bay in the vicinity of Hog Point and the boundary line between Anne Arundel and Calvert counties; thence along the mean low-water line of the Chesapeake Bay shore of Calvert County across the mouth of all inlets less than 100 yards in width, around Plum Point and Cove Point, to a point defined by latitude 38° 19′ 09″.8 and longitude 76° 25′ 21″.0 situated on Drum Point on the northern side of the entrance to Patuxent River; thence along a straight line ending at a point defined by latitude 38° 18′ 35″.9 and longitude 76° 23′ 59″.8 situated on Hog Point on the southern side of the entrance to Patuxent River, to a point defined by the intersection of this straight line and the Patuxent River channel boundary line between Calvert and St. Marys counties as laid down on "Chart No. 20, Natural Oyster Bars, Maryland;" thence up the channel of Patuxent River following the channel boundary line between Calvert and St. Marys counties and the channel boundary line between Calvert and Charles counties and the channel boundary line between Calvert and Prince Georges counties as laid down on "Charts Nos. 19 and 20, Natural Oyster Bars, Maryland;" thence continuing up the channel of Patuxent River following the channel boundary line between Calvert and Prince Georges counties to its end on the boundary line between Anne Arundel and Calvert counties.[c]

WATERS CONTIGUOUS TO COUNTY.

The oyster laws of Maryland provide that a true and accurate delineation of all natural oyster bars shall be made on copies of charts of the U. S. Coast and Geodetic Survey, "which said copies shall be filed in the office of the said Commissioners in the city of Annapolis," and "in the office of the clerks of the circuit courts for the respective counties wherein the grounds so designated may lie."

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[a] For a complete historical and legal description of the boundaries of the counties of Maryland, the valuable publication entitled "The Counties of Maryland—Their Origin, Boundaries, and Election Districts," prepared by Dr. Edward B. Mathews and published by the Maryland Geological Survey under the direction of Dr. William Bullock Clark, Superintendent, should be consulted, as the boundaries described in this publication have been established and technically defined for the purpose of carrying out the oyster laws of the State, and may or may not be correct for other purposes.

[b] See "Charts of Natural Oyster Bars," published by the Coast and Geodetic Survey, and the progress map at the end of this publication.

[c] Latitudes and longitudes based on the United States standard datum of the U. S. Coast and Geodetic Survey.

For the purpose of carrying out the latter part of this section of the law and for the purpose of establishing the limits of the oyster-culture area to be opened up for leasing with each county surveyed, it is necessary for the Shell Fish Commission to establish a boundary line between the waters contiguous to but not within the territorial limits of each county and the waters contiguous to but not within the territorial limits of adjacent counties.

This boundary line [a] has been delineated on the "Charts of Natural Oyster Bars," published by the Coast and Geodetic Survey, and is technically described and defined as follows:

Commencing at a point defined by the intersection of the mean low-water line of the western shore of Chesapeake Bay in the vicinity of Hog Point and the boundary line between Anne Arundel and Calvert counties; thence in a straight line along the Chesapeake Bay boundary between Anne Arundel and Calvert counties as laid down on "Charts Nos. 4 and 16, Natural Oyster Bars, Maryland," to a point defined by latitude 38° 42′ 33″.4 and longitude 76° 27′ 40″.0 situated about 3⅝ miles east of Hog Point; thence in a straight line along the Chesapeake Bay boundary between Calvert and Talbot counties and Calvert and Dorchester counties as laid down on "Charts Nos. 16, 17, and 18, Natural Oyster Bars, Maryland," to a point defined by latitude 38° 30′ 00″.0 and longitude 76° 25′ 30″.0 situated about 4⅜ miles east of Governors Run; thence in a straight line along the Chesapeake Bay boundary between Calvert and Dorchester counties as laid down on "Charts Nos. 17, 18, and 20, Natural Oyster Bars, Maryland," to a point defined by latitude 38° 23′ 10″.3 and longitude 76° 20′ 00″.0 situated about 2⅝ miles east of Cove Point Light; thence in a straight line along the Chesapeake Bay boundary between Calvert and Dorchester counties as laid down on "Charts Nos. 18 and 20, Natural Oyster Bars, Maryland," to a point defined by latitude 38° 19′ 37″.7 and longitude 76° 19′ 19″.0 situated about 5¼ miles southeast of Cove Point Light and about 5¼ miles east by north of Drum Point Light; thence along the Chesapeake Bay boundary between Calvert and St. Marys counties as laid down on "Chart No. 20, Natural Oyster Bars, Maryland," to a point defined by the intersection of this boundary and a straight line between a point situated on Hog Point on the southern side of the entrance to Patuxent River defined by latitude 38° 18′ 35″.9 and longitude 76° 23′ 59″.8 and a point situated on Drum Point on the northern side of the entrance to Patuxent River defined by latitude 38° 19′ 09″.8 and longitude 76° 25′ 21″.0; thence in a straight line to a point at the end defined by latitude 38° 19′ 09″.8 and longitude 76° 25′ 21″.0 situated on Drum Point on the northern side of the entrance to Patuxent River.

[a] See progress map at the end of this publication.

LANDMARKS (U. S. COAST AND GEODETIC SURVEY TRIANGULATION STATIONS).

EXPLANATION.

The oyster laws of Maryland authorizing the survey to be made by the Shell Fish Commission provide for "an accurate report of said survey, setting forth such a description of landmarks as may be necessary to enable the said board, or their successors, to find and ascertain the boundary lines of said natural oyster beds, bars, and rocks, as shown by delineation on the maps and charts." The law of the United States authorizing the cooperation of the Department of Commerce and Labor in the survey of natural oyster bars of Maryland provides for the erection of "such structures as may be necessary to mark the points of triangulation, so that the same may be used for such future work of the Coast and Geodetic Survey as the said Bureau may be hereafter required to perform in prosecuting the Government coast survey of the navigable waters of the United States located within the State of Maryland."

Under the provisions of the sections of the laws stated above, the markings and descriptions of landmarks must be sufficient for the present and future needs of both the Government and the State. With this end in view, considerable work has been expended in erecting permanent monuments at the triangulation stations and in the proper description of their location.

An effort has been made to arrange the descriptions of location and character of landmarks in a uniform and logical manner. The descriptions start with the assumption that the individual seeking a landmark has only an indefinite idea of its location. They gradually proceed from description of the general locality of a landmark to the descriptions of its immediate surroundings. This is followed by specific details of the character of the center and reference marks and a "round" of reference angles and distances which in themselves frequently contain enough information to furnish an independent and reliable location of the triangulation station.

METHOD OF DESCRIBING TRIANGULATION STATIONS.

The separate descriptions of triangulation stations should not be used without reading the following explanation of the method of describing the triangulation stations, as it contains certain details that are common to all the landmarks described in this publication and which are omitted in the separate descriptions as being needless repetitions.

Name.—The title at the top of each separate description is the name by which the landmark or triangulation station is known and designated in all work and published oyster records or oyster charts of both the Government and State. The selection of the name is usually left to the triangulator establishing the station, and it may or may not have geographic or other significance in reference to the locality.

General locality.—Under this heading is given the general locality of the landmark in reference to well-known and prominent natural or artificial features, such as the

nearest body of water, town, river, steamer wharf, well-defined point of land, church, or any other feature that is likely to remain both permanent and prominent.

This heading also covers a reference to the published chart or map which shows the location of the station most clearly. Nearly all the triangulation stations described in this publication are plainly indicated by name and a triangulation symbol on the published charts of oyster bars of Maryland. In this case they are referred to by serial number only, the words "charts of oyster bars of Maryland" being omitted to avoid needless repetition. These published oyster charts are on the large scale of 1 part in 20,000 (approximately 3⅓ inches to a statute mile) and show the location of the triangulation stations so clearly that in many cases the written descriptions will not be required to find them.

Immediate locality.—Under this heading is given the description of the "observed station" in reference to its immediate surroundings. This is supposed to include a statement of the station's estimated elevation above high water or some other well-defined level of the locality, such as a road or house; the character of the ground on which it is located, such as marsh land, sand beach, cultivated field, or meadow; estimated bearings in points of the compass and estimated distances in yards *from* (*not to*) easily recognized features, such as extreme end of point, edge of bluff, bank of creek, line of telephone poles, shore line, barn, house, fence, ditch, trees, or any other definite detail, such as being on range with the tangent of an island and a church; and so forth.

When a standard monument has been established near the station as a "reference station," this heading also covers a statement of the true bearing of the monument in degrees and minutes and its measured distance in meters, as it is the first object that is likely to catch the eye when the immediate vicinity of the desired station is reached and might be mistaken for the center mark of the "observed station" unless special attention is called to it.

The distinction between the "observed station" and "reference station" should be carefully noted by anyone making use of the description of stations for any future surveying operations.

The "observed station" is located at the particular triangulation point covered by the description of stations, and is the one whose geographic position is first computed, as it is the point which was "occupied" and "observed on" for horizontal angles. However, in spite of the primary importance of the location of the "observed station," it will be noted from the description of stations that frequently it is not marked as well as the "reference station," and in many instances has only a pine stub to indicate its position. This is the case for the reason that the necessity of intervisibility of landmarks usually made it compulsory to locate "observed stations" on edges of banks and ends of points of land, which in the tide-water section of Maryland generally means they will be washed away in a short period of years. The past experience of the Coast and Geodetic Survey in this region has shown the great need of "reference stations," if the frequent reestablishment of a new framework of triangulation is to be avoided.

The chief reason and need for the establishment of the "reference station," or secondary station, as it might be well named, is explained in the preceding paragraph, but in several instances other reasons, such as the location of the "observed station" on an unstable sand dune, in a cultivated field, in front of a residence, or other places

objectionable to the landowner, have led to establishment of "reference stations." The location of the "reference station" in relation to the "observed station" is fixed for plotting on charts or for computation of its geographic position by checked measurements of its distances and azimuth from the "observed station."[a]

Marks.—Under this heading is given a description of the character of the permanent monuments or other marks of the location of the "observed station," and of the "reference station" where one has been established.

All the marks designated in the descriptions as "the center point of triangle on standard cement monument" are exactly alike. These monuments are made of cement, sand, and gravel, and are 2 feet long and 8 inches square at top and bottom. Their tops are all marked with the same brass mold and show a center hole surrounded by a triangle, with the letters "M. S. F. C." arranged around the vertex and the letters "U. S. C. S." underneath the base of the triangle. The center hole is always in the center of the top of the monument by construction, and if this is found to have been broken off without disturbing the bottom the center of its square section can be used as the location of the station.

All the "standard cement monuments," whether used for marking the "observed station" or "reference station," have been planted upright in exactly the same manner, with their tops projecting 3 or 4 inches above the surface of the ground, unless otherwise stated.

Therefore, as the above facts in reference to the "standard cement monuments" are a constant element in all cases, the repetition of these facts in the description of stations is made needless by this one statement.

References.—Under this heading are given the "rounds" of directions and distances to all objects that might be useful in locating the stations when the surface marks can not be found. It is also contemplated that for general purposes of topography, hydrography, or location of boundaries of oyster bars these references will be sufficient in many cases to relocate the position of an "observed station" or "reference station" when both of them have been destroyed.

The first reference object given in the descriptions is always a triangulation station visible from the station being described, this, if possible, being a light-house, church spire, or other permanent and prominent point. Its direction is taken as being 0° 00′ 00″, and the directions of all other objects are measured from it as an initial point, the angles being taken in a clockwise direction (left to right).

The true bearing[b] of the initial object is always given in parenthesis alongside its name. This furnishes means for the calculation of the bearings of any of the other reference objects for the purposes of locating a station by horizontal angles or for the relocation of corner buoys of oyster-bar boundaries by the method of compass directions described in this publication under the heading of "Boundaries of oyster bars."

The distances in the last column under "References" are given in three different units, which vary according to their accuracy. The "miles" are statute miles and may

[a] Geographic coordinates (latitude and longitude) and the distance and azimuth relating to any of the "observed stations" or of the "reference stations" described in this publication can be obtained by application to the Superintendent of the Coast and Geodetic Survey, at Washington, D. C.

[b] The mean magnetic variation for Calvert County was 5° 50′ west of north in 1909 and increasing at the rate of 3′ yearly.

be considered only as rough estimates. The "yards" are more accurate, but must be looked on as results generally obtained by pacing or careful estimating. The "meters," however, are accurate to the degree indicated by their decimals and in every case have been measured with a steel tape. In the same manner the accuracy of the directions are indicated by the refinement of angular measure with which they are recorded.

DESCRIPTIONS OF TRIANGULATION STATIONS.

HOLLAND.

General locality.—Western shore of Chesapeake Bay, on south side of entrance to Herring Bay on Holland Point. (See Chart No. 16.)

Immediate locality.—Observed station is about 30 yards west of point, 5 feet back from the top of a bank 7 feet high, 12 yards north of a large blazed tree and 25 yards east of another large blazed tree. Cement monument marking reference station is 12.88 meters S 33° 52′ W of observed station.

Marks.—Observed station is a nail in a pine stub. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Fairhaven" (N 48° 13′ W)	0	00	00	2½ miles.
Nail in blaze on red-oak tree (2½ feet diameter)	238	49	--	11.17 meters.
REFERENCE STATION	262	05	00	12.88 meters.
Nail in blaze on red-oak tree (2½ feet diameter)	286	55	--	22.63 meters.

NOTE.—This station was established and described in 1906 during the survey of the oyster bars of Anne Arundel County.

HOG POINT (HOLLAND 3).

General locality.—Western shore of Chesapeake Bay, about half way between Herring Bay and Chesapeake Beach, on Hog Point, which is near the land end of boundary line between Anne Arundel and Calvert counties. (See Chart No. 16.)

Immediate locality.—Observed station is about 5 feet above high water mark on a narrow strip of solid land 25 yards by 10 yards between the edge of a large marsh and the bay shore, about 60 yards north of the point where the shore line changes direction from north and south to northeast and southwest. It is about 4 yards west of the bay shore, 4 yards east of top edge of hummock near marsh, 7 yards east of edge of marsh, 9 yards north northwest of point of a hummock, and 18 yards south by west of point of another hummock. Cement monument marking reference station of 1908 is 2.13 meters S 80° 38′ W of observed station.

Marks.—Observed station is nail in center of drain tile set in cement, with top flush with ground, the cement being roughly scribed "U. S. C. & G. S., 1907." Subsurface marks to observed station were reported in 1907 as being two hexagonal drain tiles placed one directly over the other, with top of upper 3 feet below the surface of the ground. Reference station of 1907 is marked the same as the observed station, except that only one drain tile was used as subsurface mark. Reference station of 1908 is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Sharps Island Light" (S 58° 46′ E)	0	00	00	9⅝ miles.
Left tangent of North Chesapeake Beach wharf	58	16	--	¾ mile.
Flagstaff on center of Carousel roof	64	49	30	1⅝ miles
Large brick chimney	75	34	30	2 miles.
Water tank	76	44	50	2 miles.
Nail in blaze in white oak (16 inches diameter)	138	40	20	6.32 meters.
REFERENCE STATION 1908 (cement monument)	139	23	40	2.13 meters.

	°	′	″		
Nail in blaze in pin oak (18 inches diameter)	190	18	20	------	7.98 meters.
Nail in blaze in pin oak (16 inches diameter)	236	14	--	------	17.65 meters.
Nail in blaze in pin oak (18 inches diameter)	250	02	20	------	21.96 meters.
REFERENCE STATION 1907 (tile)	255	18	50	------	11.13 meters.
Left tangent of woods on eastern shore of bay	299	44	50	------	9¼ miles.

NOTE.—This station is also known as "Holland 3 of 1907," but the name has been changed to "Hog Point (Holland 3)" in the oyster survey work of Calvert County, in order to avoid confusion with "Holland 1906," which is only 1 mile to the north.

BEACH.

General locality.—Western shore of Chesapeake Bay, about 1 mile south of Chesapeake Beach and ½ mile south of the first marshy slough south of Chesapeake Beach. (See Chart No. 16.)

Immediate locality.—Observed station is about 110 feet above high water and 7 yards back from the edge of the highest bluff in this vicinity. The ground falls off rapidly to the southwest and west of the station, and is covered with brush and small locust trees. A cultivated field extends to within 10 yards of the station on the northwest. Cement monument marking reference station of 1908 is 11.40 meters N 85° 05′ W of observed station.

Marks.—Observed station is a nail in center of drain tile set in cement, with top flush with ground. Subsurface marks to observed station were reported in 1907 as being two hexagonal drain tiles placed one directly over the other, with top of upper 3 feet below the surface of the ground. Reference station of 1907 is marked the same as the observed station, except that only one drain tile was used as a subsurface mark. Reference station of 1908 is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Hog Point (Holland 3)" (N 2° 55′ E)	0	00	00	------	2½ miles.
Outside end of wharf at North Chesapeake Beach	0	45	--	------	2 miles.
Outside end of wharf near Chesapeake Beach	18	17	--	------	1 mile.
"Sharps Island Light"	102	46	20	------	8¾ miles.
Nail in blazed locust tree	161	08	00	------	16.85 meters.
REFERENCE STATION (cement monument, 1908)	272	00	20	------	11.40 meters.
OLD REFERENCE POINT (tile—1907)	282	13	10	------	10.25 meters.
Nail in blazed locust tree	289	58	20	------	8.47 meters.
Near gable of house	343	16	--	------	1 mile.
High View Hotel	344	57	--	------	½ mile.
Cupola at Chesapeake Beach	348	04	--	------	¾ mile.
Flagpole of "merry-go-round" at Chesapeake Beach	353	44	--	------	¾ mile.
Left corner of house at North Chesapeake Beach	358	26	--	------	2 miles.

ILL 2.

General locality.—Western shore of Chesapeake Bay about 2¼ miles south of Chesapeake Beach and 2¾ miles north of Plum Point. (See Chart No. 16.)

Immediate locality.—Observed station is about 90 feet above high water and 12 feet west of edge of bluff which rises rapidly from the south. It is in a cultivated field about 100 yards south of a fence and trees running east and west and 7 feet west of a wire fence along edge of cliff. No other permanent reference objects near station. Cement monument marking reference station is 23.84 meters S 80° 43′ W of station.

Marks.—Observed station is nail in cement in center of drain tile with top flush with ground. Subsurface marks to observed station were reported in 1907 as being two hexagonal drain tiles placed one directly over the other with top of upper 3 feet below the surface of the ground. Reference station of 1907 is marked the same as the observed station, except that only one drain tile was used as a subsurface mark. Reference station of 1908 is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Sharps Island Light" (S 82° 30′ E)	0	00	00	8¼ miles.
Tangent of land to south	62	39	--	1¼ miles.
New gable of unpainted barn	104	49	--	¾ mile.
Left chimney of four-gabled house	116	36	--	1 mile.
North gable of small barn	127	15	--	½ mile.
Center chimney of white house	140	33	--	¾ mile.
REFERENCE STATION of 1908 (cement monument)	163	12	40	23.83 meters.
East gable of unpainted barn	164	10	--	⅜ mile.
Chimney on outside of old house	169	41	--	1 mile.
REFERENCE STATION of 1907 (tile)	179	51	20	16.80 meters.
South gable of house at North Beach	260	29	--	2½ miles.
Tangent of woods on Holland Point	263	36	--	4½ miles.
Tangent on north end of Poplar Island	305	59	--	10¾ miles.

PLUM 3.

General locality.—Western shore of Chesapeake Bay about 1¼ miles north by west of Plum Point wharf and about ½ mile north by west of Plum Point. (See Chart No. 16.)

Immediate locality.—Observed station is about 7 yards west of edge of first bluff north of low land above Plum Point wharf and 12 yards south of rail fence and a line of bushes and cedar trees. Cement monument marking reference station of 1908 is 14.03 meters S 81° 43′ W of observed station. No other reference objects near station.

Marks.—Observed station is center of drain tile with top flush with ground. Subsurface marks to observed station were reported in 1907 as being two hexagonal drain tiles placed one directly above the other with the top of the upper tile 3 feet below the surface of the ground. Reference station of 1907 is marked the same as the observed station except that only one drain tile was used as a subsurface mark. Reference station of 1908 is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Sharps Island Light" (N 81° 31′ E)	0	00	00	7 ⅝ miles.
Peak of near gable of large house	10	15	--	8¼ miles.
Outer end of Plum Point wharf	78	13	--	1¾ miles.
Chimney outside of north end of house	120	22	--	1¼ miles.
Southwest peak of barn	150	27	--	¾ mile.
REFERENCE STATION 1908 (cement monument)	180	12	20	14.03 meters.
REFERENCE STATION 1907 (tile)	213	12	10	14.23 meters.
Tangent to Holland Point	273	31	--	7½ miles.
Right tangent Chesapeake Beach wharf	273	56	--	4¾ miles.
Left tangent Poplar Island	312	43	10	12½ miles.
Large lone tree Poplar Island	319	39	10	12 miles.
Left chimney of house	326	30	--	12¾ miles.
Left chimney of house	334	55	--	11 miles.
Steeple on church or house Tilghman Island	341	02	00	10 miles.

PIER.

General locality.—Western shore of Chesapeake Bay about south southeast of Plum Point on outer end of wharf at Plum Point Landing. (See Charts Nos. 16 and 17.)

Immediate locality.—Observed station is on outer part of wharf known as Plum Point Landing about 20 yards from extreme end and nearly on line with northern side of warehouse.

Marks.—Observed station is an auger hole bored in plank flooring of wharf surrounded by a triangle marked by nails.

References.—

Northeast corner of calf pen	Southeast	6.68 meters.
Northwest corner of calf pen	South southeast	4.48 meters.
Rail of fence on south edge of wharf	South	2.03 meters.
Prolongation of line of north side of warehouse	North	0.11 meter.
South rail of wharf track	North	0.92 meter.
North rail of wharf track	North	2.36 meters.
North side of wharf	North	3.39 meters.
West side of warehouse	East	8.60 meters.

SHARPS ISLAND LIGHT.

General locality.—Easterly side of Chesapeake Bay off entrance to Choptank River on a shoal about 1½ miles north northwest of Sharps Island. (See Chart No. 16.)

Immediate locality.—Observed station is on light-house known as "Sharps Island Light."

Marks.—Observed station is center point of black lantern on top of tower on a cylindrical caisson foundation.

Reference.—

	°	′	″	
"Parker" (S 44° 36′ W)	0	00	00	10 miles.

PEN.

General locality.—Western shore of Chesapeake Bay about half way between Plum Point and Governors Run on the outer end of Dares Wharf. (See Chart No. 17.)

Immediate locality.—Observed station is on outer part of Dares Wharf about 30 yards from the extreme end, 12 yards west of warehouse, and 1 yard north of south side of wharf.

Marks.—Observed station is auger hole in plank flooring surrounded by a triangle marked by nails.

References.—

Southwest corner of warehouse	East by south	11.10 meters.
Inside corner on angle in wharf	East by south	5.09 meters.
South edge of wharf	South	0.95 meter.
South rail of straight track at point of frog	North	2.13 meters.
South rail of curved track	North	0.90 meter.
North edge of wharf	North	4.15 meters.
Southwest corner of cattle pen	Northeast	7.12 meters.
Southeast corner of cattle pen	Northeast by north	9.63 meters.
Northwest corner of warehouse	Northeast by north	12.80 meters.

PATCH.

General locality.—Western shore of Chesapeake Bay about 1 mile south of Dares Wharf. (See Chart No. 17.)

Immediate locality.—Observed station is on a high bluff of land about 65 yards back from its edge. Station is in a cultivated field and on a high knoll and the land slopes away from it on all sides. A locust thicket stands northwest of the station and the land slopes steeply from the station to the thicket. Cement monument marking reference station is 9.07 meters N 52° 41′ W of observed station.

Marks.—Observed station is nail set in cement in tile pipe buried with top about 15 inches below the surface of the ground. Reference station is center point of triangle on standard cement monument

References.—

	°	′	″		
"Sharps Island Light" (N 50° 39′ E)	0	00	00	10	miles.
"Cove Point Light"	96	01	20	15	miles.
Tangent to Point of Rocks	98	30	--	4	miles.

	°	′	″		
East end of Governors Run wharf	112	57	--	------	1½ miles.
East end of roof of barn	155	25	--	------	1 mile.
Nail in blazed locust (old reference mark)	210	17	50	------	11.93 meters.
Nail in blazed locust (old reference mark)	226	02	50	------	12.04 meters.
REFERENCE STATION (cement monument)	256	49	10	------	9.07 meters.
East peak of large barn on hill	257	14	--	------	½ mile.
East end of Plum Point wharf	316	50	--	------	3¼ miles.

PARKER.

General locality.—Western shore of Chesapeake Bay about 2 miles north of Governors Run wharf and 2¼ miles south of Dares Wharf. (See Chart No. 17.)

Immediate locality.—Observed station is about 100 feet above high water, 10 yards west of edge of bluff, 50 yards north of a small stream in a deep gully, and 25 yards east of cultivated field back of a growth of locust trees. The land slopes rapidly to the small stream from a point about 10 yards south of the station. Reference station is 23.29 meters N 83° 45′ W of observed station.

Marks.—Observed station is nail in center of tile pipe filled with cement. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Cove Point Light" (S 36° 39′ E)	0	00	00	------	11 miles.
East end of Governors Run wharf	11	10	--	------	1¼ miles.
REFERENCE STATION	132	54	10	------	23.29 meters.
Nail in blazed locust	159	39	25	------	8.19 meters.
East end of Dares Wharf	223	45	--	------	3¼ miles.
"Sharps Island Light"	261	10	30	------	11 miles.
White house on Eastern Shore	327	32	--	------	10 miles.

RUN.

General locality.—Western shore of Chesapeake Bay on Governors Run wharf. (See Charts Nos. 17 and 18.)

Immediate locality.—East peak of wharf house.

Marks.—Observed station is braced pole with cage on east peak of wharf house on Governors Run wharf.

References.—None necessary.

POPLAR.

General locality.—Western shore of Chesapeake Bay about 2 miles south of Governors Run wharf (See Chart No. 18.)

Immediate locality.—Observed station is in a cultivated field about 60 feet above high water, 50 feet west from edge of bluff, 25 yards south of a ravine which starts at shore, 115 yards north of where high cliff covered with trees commences to rise rapidly, and 30 yards from a large poplar tree on opposite side of a ravine with sycamore, cherry, and locust trees along its edge. Another bluff rises rapidly on opposite side of ravine.

Marks.—Observed station is center point of triangle on standard cement monument with a subsurface mark of a nail in a short stub.

References.—

	°	′	″		
"Sharps Island Light" (N 27° 41′ E)	0	00	00	------	12 miles.
Tangent of James Point woods	18	28	--	------	8 miles.
White house on Eastern Shore	65	00	--	------	8 miles.
Chimney on house	198	25	--	------	1 mile.
East peak of barn	203	37	--	------	1¾ miles.
East end of Governors Run wharf	309	18	--	------	1½ miles.
Chimney on white house above "Parker"	310	45	--	------	2½ miles.
South peak of barn	311	47	--	------	2¾ miles.
Peak of unpainted barn	317	23	--	------	3 miles.

	°	′	″		
East end of Dares Wharf	320	43	--	------	4 miles.
East end of Plum Point wharf	324	57	--	------	8 miles.
Tangent of Plum Point	325	04	--	------	9 miles.

FLAG POND.

General locality.—Western shore of Chesapeake Bay, 3¾ miles north-northwest of Point of Rocks and 4 miles southeast of Governors Run. (See Chart No. 18.)

Immediate locality.—Observed station is on sand and grass land between bay shore and swamp about 5 feet above high water, 35 yards south of shore, 20 yards northwest of shore, 9 yards northwest of cedars between shore and station, 10 yards west of cedars and bushes, 25 yards west of shore, and 10 yards northeast of swamp. Cement monument marking reference station is 9.02 meters N 87° 33′ W of observed station.

Marks.—Observed station is a spike in cement in a stovepipe 4 inches in diameter and 1 foot long placed on top of a cement post 6 inches square with a ¼-inch galvanized iron rod core. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Cove Point Light" (S 41° 57′ E)	0	00	00	------	6¼ miles.
Spike in blaze	10	48	40	------	13.56 meters.
Spike in blaze in cedar tree	131	36	40	------	14.88 meters.
REFERENCE STATION	134	23	30	------	9.02 meters.
Spike in blaze in cedar tree	162	27	--	------	18.48 meters.
Spike in blaze in cedar tree	269	43	50	------	8.80 meters.
Right edge of main woods	282	19	50	------	7¼ miles.
Left peak of house	302	07	50	------	7¼ miles.
Left peak of house with two dormer windows	318	18	--	------	8½ miles.

WILSON 2.

General locality.—Western shore of Chesapeake Bay, about 5 miles northwest of "Cove Point Light." (See Chart No. 18.)

Immediate locality.—Observed station is on a sand bluff about 80 feet above high water, 30 yards south from one edge of bank, 15 yards southwest of another edge of bank, 20 yards northwest from point where decline begins toward southeast, 3 yards south of cultivated land, about ¼ mile north-northeast of house with two large chimneys on each end, and about ½ mile northeast of a barn. Cement monument marking reference station is 1.56 meters N 88° 28′ E of observed station.

Marks.—Observed station is a ¼-inch galvanized wire set in center of cement post about 6 inches square with top about 6 inches below surface of ground. Reference station is center point of triangle on standard cement monument with top 6 inches above ground.

References.—	°	′	″		
"Sharps Island Light" (N 14° 54′ E)	0	00	00	------	14 miles.
Left of main woods	18	23	--	------	15¼ miles.
REFERENCE STATION	73	34	20	------	1.56 meters.
Left peak of house	84	40	40	------	8 miles.
Near corner of near chimney of Wilson house	191	02	--	------	¼ mile.
Peak of barn	225	25	--	------	½ mile.

POINT OF ROCKS.

General locality.—Western shore of Chesapeake Bay, on Point of Rocks, about 2¾ miles northwest of Cove Point Light. (See Chart No. 18.)

Immediate locality.—Observed station is in dense woods on a bluff about 90 feet high, 5 yards west of edge at extreme point, 8 yards south of edge of bluff, and 5 yards northwest of edge of bluff. Cement monument marking reference station is 9.42 meters S 66° 44′ W of observed station.

Marks.—Observed station is nail in center of round stake 4 inches in diameter with top flush with ground driven into a 6-inch drain tile with top 6 inches below the surface. Subsurface mark was reported in 1898 as a 6-inch drain tile set just below upper tile. Reference station is center point of triangle on standard cement monument with top 4 inches above surface of ground.

References.—

	°	′	″		
"Cove Point Light" (S 43° 26′ E)	0	00	00	------	2¾ miles.
Center nail in blaze of tree (13 inches diameter)	19	19	40	------	5.64 meters.
Center nail in blaze of tree (13 inches diameter)	90	05	30	------	5.62 meters.
REFERENCE STATION	110	09	30	------	9.42 meters.
Nail in blaze in tree (9 inches diameter)	126	35	40	------	4.16 meters.
Right tangent Governors Run Wharf	186	20	20	------	7¼ miles.
Tangent of main woods	249	57	--	------	8¼ miles.
Left peak of large house	297	45	20	------	6 miles.
Northerly peak of large house	312	17	30	------	6¾ miles.

COVE POINT LIGHT.

General locality.—Western shore of Chesapeake Bay on Cove Point, which is about 5 miles to northward of entrance to Patuxent River. (See Charts Nos. 18 and 20.)

Immediate locality.—Observed station is on white tower known as "Cove Point Light" which is near white detached dwelling and white detached fog signal house.

Marks.—Observed station is center point of black lantern on white tower.

References.—

	°	′	″		
"Cedar Point Light" (S 7° 16′ E)	0	00	00	------	6 miles.

WHITE HOUSE (N. E. CHIMNEY).

General locality.—Western shore of Chesapeake Bay about 1 mile southwest of Cove Point Light and ¼ mile southwest of Cove Point Landing. (See Charts Nos. 18 and 20.)

Immediate locality.—Observed station is a chimney standing alone about 300 yards southwest of Cove Point Landing which was formerly the more northeasterly of two chimneys on a house that was destroyed by fire. This chimney is near a white house which was built to replace the destroyed house.

Marks.—A chimney standing apart from a small white house owned by Mrs. Hagland.

References.—

	°	′	″		
"Cove Point Light" (N 39° 54′ E)	0	00	00	------	1 mile.

TRAVERS 2.

General locality.—Eastern shore of Chesapeake Bay on western side of Taylors Island about 4 miles south of James Point. (See Chart No. 18.)

Immediate locality.—Observed station is about 4 feet above high water mark in a field which was once under cultivation but is now covered with water bushes, about 40 yards east of shore and 15 feet north of a wire fence which starts at the shore and runs east. A stone used as an old reference mark stands 9.41 meters N 26° 53′ E of observed station and the cement monument marking new reference station is 9.52 meters N 77° 20′ W of observed station.

Marks.—Observed station is a granite post projecting above the ground with cross lines running approximately north to south and east to west. New reference station is center point of triangle on standard cement monument. Old reference station is a cross on a granite post projecting above the ground with one of the cross lines running in the direction of Cove Point Light.

References.—	°	′	″	
"Cove Point Light" (S 26° 15′ W)	0	00	00	6½ miles.
Governors Run Wharf	77	12	--	9½ miles.
Tangent of woods at waters edge	123	40	--	½ mile.
Near peak of two-story house	173	23	--	¼ mile.
OLD REFERENCE STONE (granite post)	180	38	20	9.41 meters.
Chimney of 1½ story house	195	47	--	¼ mile.
NEW REFERENCE STATION (cement monument)	256	24	50	9.52 meters.
Near corner of small cabin	271	32	--	¼ mile.
Near chimney of house among trees	300	54	--	½ mile.
Near peak of small house	304	54	--	¼ mile.

PRINCE.

General locality.—Western shore of Patuxent River about ¼ mile north of mouth of Swanson Creek. (See Chart No. 19.)

Immediate locality.—Observed station is in pasture about 20 feet above high water, 15 yards northwest of edge of bank, 75 yards northeast of a grove of trees and 100 yards southwest of another grove of trees. Locust trees form a fringe along edge of bank.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Leitch" (S 83° 01′ E)	0	00	00	¾ mile.
Square chimney on house	0	02	--	¾ mile.
Chimney on store at Buena Vista	19	15	--	1¾ miles.
Chimney of Dr. Huggins house at Buena Vista	21	07	--	1¾ miles.
Nearest chimney on Gourley house on Hallowing Point	55	16	--	2½ miles.
Nail in blaze in locust tree (3 inches diameter)	79	38	30	15.94 meters.
Nail in blaze in locust tree (4 inches diameter)	110	13	30	14.55 meters.
Outside chimney on large house on hill	150	45	-	¾ mile.
Near end of peak of roof	226	02	--	¾ mile.
Middle of clump of trees	273	00	--	100 yards.
Chimney of house	311	04	--	1¾ miles.
Nail in blaze in crotch of locust tree (6 inches diameter)	350	39	10	19.27 meters.

LEITCH.

General locality.—Eastern shore of Patuxent River on prominent point opposite mouth of Swanson Creek given on chart as Gods Grace Point but known locally as Leitchs Point. (See Chart No. 19.)

Immediate locality.—Observed station is on sand and grass land about 1 foot above high water and 3 yards north of straight line connecting two round points. It is about 13 yards northwest of the lower of these two points and 9 yards east of upper point. A creek 3 feet wide has its mouth about 19 yards east by south of the station. There are no permanent objects near station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Prince" (N 83° 00′ W)	0	00	00	¾ mile.
Near end of corner peak of roof of large house on hill	25	02	--	1¾ miles.
Near end of peak of wharf-house roof	77	46	--	¼ mile.
Right chimney of house	183	32	--	⅛ mile.

	°	′	″	
Right chimney of Gourley house	253	58	--	2 miles.
Canning-house stack	277	22	00	2 miles.
"Catholic Church Cross"	281	35	30	2 miles.
Chimney of small house	308	52	--	1 mile.
Right outside chimney of old house	328	43	--	1¼ miles.
Right outside chimney of old house	343	05	--	1½ miles.

FODDER.

General locality.—Western shore of Patuxent River on the southern side of the mouth of Swanson Creek about 1 mile west-southwest of Leitch Wharf and ¾ mile west-northwest of Point Judith (locally known as Teague Point). (See Chart No. 19.)

Immediate locality.—Observed station is on the edge of cultivated land about 10 feet above high-water mark, 4 yards west of edge of bank, and 9 yards north of another edge. Cement monument marking reference station is 15.21 meters S 60° 52′ W of observed station.

Marks.—Observed station is center point of triangle on standard cement monument with a top 9 inches square and 8 inches above surface of ground. Reference station is center point of triangle on standard cement monument with a top about 8 inches square and 5 in hes above surface of ground.

References.—

	°	′	″	
"Prince" (N 25° 00′ E)	0	00	00	¼ mile.
Near peak of large house on bluff	17	55	--	2 miles.
Right corner of house	24	08	--	1¾ miles.
Near peak of Leitch Wharf house	35	11	--	1¼ miles.
Left peak of Leitch house	48	37	--	1¼ miles.
Front peak of house at Buena Vista	75	00	--	1¼ miles.
Chimney outside left end of house on hill	87	16	--	2 miles.
Near peak of small house	101	33	--	⅜ mile.
Large chimney on small house	174	43	--	1 mile.
Left side of left chimney outside Bowling house	211	47	--	¾ mile.
REFERENCE STATION	215	52	30	15.21 meters.
Left corner of house on top of hill	318	27	--	1 mile.

BUENA.

General locality.—Eastern shore of Patuxent River about 1¾ miles northeast of Benedict at place known as Buena Vista. (See Chart No. 19.)

Immediate locality.—Observed station is in a field on land adjoining house owned by S. V. Smith and occupied by Doctor Huggins. It is about 10 feet above high water, 8 yards east of edge of bank, and 12 yards south of a rail fence. Cement monument marking reference station is 11.11 meters N 5° 42′ E of observed station and near fence.

Marks.—Observed station is nail in stub with top 2 inches above ground. Reference station is center point of triangle on standard cement monument.

References —

	°	′	″	
"Hallowing" (S 27° 22′ W)	0	00	00	1½ miles.
Center of red roof on square house near Benedict	18	05	--	2 miles
Canning-house stack	21	30	--	1¾ miles.
"Catholic Church Cross"	29	04	10	1¾ miles.
Nail in blaze in locust tree (4 inches diameter)	31	48	40	8.58 meters.
Left chimney of old house	66	15	--	3 miles.
Left chimney of old house	72	52	--	3 miles.

	°	′	″		
Nail in blaze on cherry tree (2 inches diameter)	99	05	--	------	9.70 meters.
Peak of roof of large house	99	15	--	------	4 miles.
Chimney of house near Leitch Wharf	108	52	--	------	1 mile.
Nail in blaze on fence post	143	33	50	------	11.18 meters.
REFERENCE STATION	158	20	20	------	11.11 meters.
Near corner of house	159	44	--	------	25 yards.
Cherry tree on fence line (15 inches diameter)	221	25	--	------	35 yards.
Double apple tree (30 inches diameter)	290	54	--	------	59 yards.

TEAGUE.

General locality.—Western shore of Patuxent River on point on southern side of entrance to Swanson Creek, locally known as Teague Point, and given on chart as Point Judith. (See Chart No. 19.)

Immediate locality.—Observed station is on gravel and grass land about 3 feet above high water, about 11 yards from south side, 16 yards from north-northeast side, and 75 yards west by north of extreme end of point. Bushes stand between station and north side of point. There are no permanent reference objects near station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Buena" (N 85° 24′ E)	0	00	00	------	1¼ miles.
Tangent of Teague Point	20	00	--	------	75 yards.
Near corner of right chimney of Gourley house near Hallowing Point	65	45	--	------	1¼ miles.
Canning-house stack	106	18	00	------	1¼ miles.
Near end of peak of hotel	108	12	--	------	1¼ miles.
Left one of two ivy-covered chimneys	110	25	--	------	1 mile.
"Catholic Church Cross"	114	11	10	------	1 mile.
Chimney on Slye House	130	30	--	------	2 miles.
Left chimney of house on hill	144	57	--	------	2 miles.
Tangent of high-water mark	168	00	--	------	75 yards.
Near end of peak of roof	223	41	--	------	1 mile.
Chimney on large house on hill	243	20	--	------	3 miles.
Left chimney on house	301	17	--	------	1 mile.
Near end of peak of roof on store at Buena Vista	355	59	--	------	1¼ miles.

CITY.

General locality.—Western shore of Patuxent River on Town Point about ¼ mile north-northeast of Benedict steamboat wharf. (See Chart No. 19.)

Immediate locality.—Observed station is on gravel and shell point about 4 feet above high water, 12 yards northwest of the shore, 63 yards west-southwest of a shanty, about 100 yards west-southwest of extreme end of point, and 11 yards southeast of a slough. There are no permanent reference objects near station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Hallowing" (S 51° 21′ E)	0	00	00		½ mile.
Windmill near Sheridan Point	21	39	00	------	3½ miles.
Two middle chimneys at Dowells	21	39	00	------	3½ miles.
Left tangent of peak of wharf-house roof	81	34	--	------	¼ mile.
Center of roof of square house	84	36	20	------	¼ mile.
Canning-house stack	95	22	00	------	¼ mile.
Nearest ivy-covered chimney of old house	130	14	--	------	⅛ mile.
"Catholic Church Cross"	142	58	50	------	¼ mile.

	°	′	″		
Left square chimney of house	245	42	--	------	1¾ miles.
Near end of peak of roof of Huggins house	280	54	--	------	1¼ miles.
Near corner of shanty	300	44	--	------	63 yards.
Right chimney of Gourley house	339	20	--	------	¾ mile.
Chimney of old building behind wharf	352	01	--	------	¾ mile

HALLOWING.

General locality.—Eastern shore of Patuxent River on point opposite Benedict known locally as Holland Point, but given on charts as Hallowing Point. (See Chart No. 19.)

Immediate locality.—Observed station is on a rounded gravel and grass point about 250 yards south of wharf on Holland Point, about 2 feet above high water, 10 yards north of shore, 8 yards east of shore and 15 yards outside of a group of locust trees, sugar-berry trees, and bushes.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"City" (N 51° 21′ W)	0	00	00	------	¾ mile.
Left end of peak of roof of wharf house on Holland Point	23	15	--	------	250 yards.
Chimney of store at Buena Vista	77	27	--	------	1¾ miles.
Nail in blaze in nearest one of group of four sugar-berry trees (each 8 inches diameter)	92	24	--	------	12.88 meters.
Nail in blaze in sugar-berry tree (10 inches diameter)	109	58	50	------	15.74 meters.
Nail in blaze in locust tree (4 inches diameter)	167	55	40	------	11.90 meters.
Smokepipe on Trent Hall Wharf building	227	35	--	------	2¼ miles.
Outside chimney of detached house at Sothorons	309	54	--	------	1¾ miles.
Center of roof on square house	314	15	--	------	¾ mile.
Canning-house stack	333	16	--	------	½ mile.
"Catholic Church Cross"	347	44	20	------	¾ mile.

INDIAN.

General locality.—Western shore of Patuxent River on north side of entrance to Indian Creek and about one-fourth mile below Benedict steamboat wharf. (See Chart No. 19.)

Immediate locality.—Observed station is about 3 feet above high water, 7 yards west of shore, 16 yards northeast of a fence and a line of trees, 13 yards southwest of a lone locust tree, about 250 yards to the south-southeast of a large square house, and 125 yards east-northeast of another house.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Sothoron" (S 23° 11′ E)	0	00	00	------	1 mile.
Nail in blaze in locust tree near fence (5 inches diameter)	33	48	50	------	15.57 meters.
Nail in blaze in middle branch of locust tree (6 inches diameter)	66	24	50	------	19.13 meters.
Square chimney on old house	137	23	--	------	1¼ miles.
Right chimney of square house	188	30	--	------	⅛ mile.
Near end of peak of roof of hotel	206	26	--	------	¼ mile.
Canning-house stack	213	22	10	------	¼ mile.
Right tangent of Benedict Wharf	228	10	--	------	½ mile.
Chimney of house near "Buena Vista"	245	58	--	------	2¼ miles.
Chimney of Gourley house	270	28	--	------	1 mile.
Windmill at Dowell's on Sheridan Point	344	48	--	------	4¼ miles
Left of right chimney on Dowell house	344	48	--	------	4¼ miles.
Nail in blaze in left branch of locust tree (5 inches diameter)	225	28	--		12.90 meters.

DWARF.

General locality.—Eastern shore of Patuxent River about 2 miles north-northwest of Sheridan Point and about 1½ miles southeast of Benedict on a point of land opposite the mouth of Indian Creek. (See Chart No. 19.)

Immediate locality.—Observed station is on sand and grass land about 1 foot above high-water mark, 6 yards northeast from extreme end of point, 4 yards east of one edge of shore and 6 yards north of another edge of shore. Point on which station is located has a sugar-berry tree, several small locust trees and water bushes, and a pond behind bushes and trees about 100 yards to the east.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Sothoron" (S 42° 05′ W)	0	00	00	------	¾ mile.
Nearest corner of top of nearest chimney on tenant house	80	31	--	------	2 miles.
Center of roof of square house	83	16	--	------	1 mile.
Nail in blaze in locust tree (4 inches diameter)	93	38	30	------	4.22 meters.
Canning-house stack	95	03	33	------	1¼ miles.
"Catholic Church Cross"	99	03	10	------	1¼ miles.
Left tangent of wharf	124	19	--	------	¾ mile.
Nail in sugar-berry tree (10 inches diameter)	152	38	30	------	8.94 meters.
Nail in blaze in locust tree (3 inches diameter)	196	22	20	------	2.68 meters.
Chimney on small house	258	48	--	------	2 miles.
Left point of peak of roof of Dowell's	287	30	--	------	2¼ miles.
Left end of peak of roof of Trent Hall Wharf	315	35	--	------	1¼ miles.
Middle cupola on stable	321	12	20	------	1½ miles.
Right pillar on Sothoron house porch	359	21	--	------	1 mile.

SOTHORON.

General locality.—Western shore of Patuxent River on Long Point between entrances to Indian and Trent Hall creeks. (See Chart No. 19.)

Immediate locality.—Observed station is on sand and grass lowland about 1 foot above high-water mark among cedar trees, about 24 yards west by north of extreme end of point, 12 yards north of one edge of shore and 30 yards southwest of another edge of shore.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Hallowing" (N 13° 51′ E)	0	00	00	------	1¼ miles.
Nearest chimney on Gourley house	3	55	--	------	1¼ miles.
Nail in blaze in locust tree (4 inches diameter)	30	49	--	------	3.35 meters.
Left end of peak of roof of Dowell house	120	35	--	------	2¼ miles.
Middle cupola on Trent Hall stable	150	25	00	------	1¼ miles.
Point of middle attic window on John Bullinger house	187	42	--	------	1 mile.
Left pillar of porch of Sothoron house	206	23	--	------	½ mile.
Nail in blaze in cedar tree (12 inches diameter)	242	51	50	------	8.12 meters
Near corner of nearest chimney on Slye house	291	05	20	------	2 miles.
Nail in blaze in locust tree (4 inches diameter)	302	29	40	------	10.83 meters.
Right one of two outside chimneys on old house on hill on property of A. B. Slye	307	31	20	------	2 miles.
Center of roof on square house	323	39	10	------	1 mile.
Nail in blaze in locust tree (6 inches diameter)	350	24	10	------	12.81 meters.

BUZZ.

General locality.—Northeast shore of Patuxent River on southwest side of Buzzards Island near mouth of Buzzards Island Creek. (See Chart No. 19.)

Immediate locality.—Observed station is on marsh, clay, and grass land on wooded island about 2 feet above high water, 5 yards northeast of river shore and 40 yards northwest of extreme point of island. Cement monument marking reference station is 8.97 meters N 42° 23′ E of observed station.

Marks.—Observed station is nail in stub with top flush with ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Morsel" (S 25° 23′ E)	0	00	00	¾ mile.
Smoke pipe on roof of storehouse	39	11	--	2 miles.
Near corner of near chimney	40	36	--	2 miles.
Chimney of Trent Hall	50	48	--	1¾ miles.
Nearest of three cupolas on stable	54	36	50	1¾ mile.
Left piazza post at Sothorons	102	41	--	1¾ miles.
Center of roof of square house	155	15	--	1¾ miles.
"Catholic Church Cross"	164	56	--	2 miles.
Nail in blaze in oak tree (18 inches diameter)	172	14	--	4.55 meters.
Nail in blaze in oak tree (18 inches diameter)	198	36	40	13.16 meters.
Nail in blaze in oak tree (24 inches diameter)	235	08	30	9.62 meters.
REFERENCE STATION	252	45	45	8.97 meters.
Nail in blaze in pine tree (5 inches diameter)	255	43	--	6.52 meters.
Chimney on house across creek	313	23	--	¼ mile.

BILLIARD.

General locality.—Southwest shore of Patuxent River about ¼ mile southeast of entrance to Trent Hall Creek. (See Chart No. 19.)

Immediate locality.—Observed station is on marsh land about 1 foot above high-water mark, 6 yards west of shore, 70 yards north of curve in shore and about 100 to 150 yards north to northwest of a fence which runs to water's edge. No permanent reference objects near station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Trent" (S 32° 53′ E)	0	00	00	⅜ mile.
Middle cupola on Trent Hall stable	16	36	--	½ mile.
Chimney on Trent Hall	18	41	--	½ mile.
Two trees	31	47	--	200 yards.
Tangent of curve in water line	33	00	--	71 yards.
Chimney of 2½-story house	81	59	--	2 miles.
Right corner of Sothoron house	162	34	--	½ mile.
Near corner of chimney on Slye house	171	09	--	2 miles.
Right tangent of wharf	213	11	--	2 miles.
Middle of three chimneys on Gourley house	228	53	--	2 miles.
Chimney on house among trees	293	41	--	1½ miles.
Nearest end of peak roof of Dowell house at Dukes Wharf	333	42	--	1¾ miles.
Right tangent of Sheridan Point	341	34	--	1¼ miles.
Left tangent Trent Hall Wharf	348	49	--	⅜ mile.
Smoke pipe on house at land end of Trent Hall Wharf	356	53	--	⅜ mile.

MORSEL.

General locality.—Northeast shore of Patuxent River about 1 mile north by west of Sheridan Point. (See Chart No. 19.)

Immediate locality.—Observed station is in a wheat field on a cliff about 60 feet above high water, about 5 yards northeast of edge of bank, 110 yards north northwest of rail fence at woods, 103 yards west southwest of woods, and 167 yards west northwest of corner of field at creek and woods. Trees grow out of face of cliff below station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Sheridan" (S 5° 27′ E)	0	00	00	⅞ mile.
Near corner of near chimney on brick end of Dowell house	37	12	--	2 miles.
Chimney beyond weeping willow at Trent Hall	62	58	--	1 mile.
Nearest chimney on Slye house	128	11	--	3 miles.
"Catholic Church Cross"	148	44	00	2¾ miles.
Chimney on house with tin roof ell	172	17	--	1 mile.
Oak tree near creek (4 feet diameter)	297	27	--	167 yards.
Large white-oak tree	330	50	--	110 yards.

TRENT.

General locality.—Southwest shore of Patuxent River on White Point about 50 yards west of Trent Hall Wharf. (See Chart No. 19.)

Immediate locality.—Observed station is 1 foot above high-water mark on sand and grass land between river and marsh, about 47 yards west of small house on land end of Trent Hall Wharf, about 64 yards northwest of extreme end of White Point, 5 yards southwest of high-water mark, about 428 yards north of Trent Hall and 105 yards south by east of mouth of creek. Cement monument marking reference station is 17.18 meters S 69° 40′ W of observed station.

Marks.—Observed station is nail in stub flush with ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Sheridan" (S 57° 31′ E)	0	00	00	1⅛ miles.
Tangent of point	32	17	--	¼ mile.
Large lone tree	50	15	-	½ mile.
Right corner of Trent Hall	74	08	--	428 yards.
Right cupola of three on Trent Hall stable	99	40	--	300 yards.
Large lone tree	113	51	--	150 yards.
REFERENCE STATION	127	10	30	17.18 meters.
"Catholic Church Cross"	219	22	20	2¾ miles.
Right end of peak of roof of Holland Point Wharf	233	05	--	2¼ miles.
Right chimney of smaller of two houses among trees	284	01	--	2 miles.
Right chimney of house	300	35	--	5½ miles.
Right corner of shanty	300	36	--	47 yards.

COLLINS.

General locality.—Southwest shore of Patuxent River about ¼ mile northeast of entrance to Washington Creek on point opposite Sheridan Point. (See Chart No. 19.)

Immediate locality.—Observed station is on marsh land about 1 foot above high-water mark, 16 yards west of shore, 20 yards northwest of shore, 21 yards southwest of shore, 300 yards northeast of a tall lone tree and 300 yards southeast of house known as Trent Hall.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Sheridan" (S 80° 59′ E)	0	00	00	------	¾ mile.
Left end of peak of roof of De La Brooke Pier	52	12	--	------	2¼ miles.
Right side of right chimney of large painted brick house	60	23	--	------	2¼ miles.
Near corner of Thomas house (Cremona)	73	22	--	------	1 mile.
Smoke pipe in chimney on store	98	26	--	------	½ mile.
Large lone tree	129	07	--	------	300 yards.
Small lone tree	175	10	--	------	130 yards.
Near corner of Trent Hall Wharf house	244	37	--	------	½ mile.
Chimney on end of roof of house among trees	287	41	--	------	2¼ miles.
Left corner of left chimney of Dowell house	354	11	--	------	1 mile.

SHERIDAN.

General locality.—Northeast shore of Patuxent River on Sheridan Point. (See Chart No. 19.)

Immediate locality.—Observed station is on sand and grass point near edge of the grass, about 2 feet above high-water mark, 6 yards east of extreme edge of grass on point, 8 yards north of grass edge and 7 yards south of grass edge. Cement monument marking reference station is 14.13 meters N 49° 56′ E of observed station.

Marks.—Observed station is nail in stub with top 6 inches above ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Kitt" (S 66° 05′ E)	0	00	00	------	1¼ miles.
Right tangent of brick house	10	41	--	------	6 miles.
Left end of peak of roof of De La Brooke Pier	56	13	--	------	1¾ miles.
Left corner of left chimney of Thomas house (Cremona)	102	38	--	------	1¼ miles.
Smoke pipe on several gable house	124	25	--	------	1¼ miles.
Right tangent of Trent Hall Wharf	192	00	--	------	1 mile.
Catholic Church at Benedict	216	56	--	------	3¼ miles.
REFERENCE STATION	296	01	00	------	14.13 meters.
Near chimney of Dowell house	325	23	--	------	¼ mile.

CREMONA.

General locality.—Southwest shore of Patuxent River about half way between Cremona and Persimmon creeks. (See Chart No. 19.)

Immediate locality.—Observed station is in orchard on farm known as Cremona, about 6 feet above high-water mark, 10 yards south of edge of river bank, 7 yards south of rail fence which runs west and east to door yard fence, 36 yards east of rail fence of cornfield, 75 yards north of rail fence at cornfield and 53 yards west of picket fence. Several mountain dwarf cherry trees stand between fence and river bank edge.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Kitt" (N 84° 13′ E)	0	00	00	------	2 miles.
Near end of peak of roof of Young Hance house	16	26	--	------	3 miles.
Nail in blaze in apple tree (24 inches diameter)	37	38	20	------	24.55 meters.

	°	′	″		
Nail in blaze in apple tree (16 inches diameter)	62	43	30		13.12 meters.
Nail in blaze in apple tree (15 inches diameter)	100	33	30		16.11 meters.
Corner of field	181	55	--		87 yards.
Corner of field	233	32	--		38 yards.

KITT.

General locality.—Northeast shore of Patuxent River on Kitts Marsh Point, which is about halfway between Battle Creek and Sheridan Point. (See Chart No. 19.)

Immediate locality.—Observed station is on the point of a long marsh neck, about 15 yards northeast of extreme end of point, 13 yards north of edge of marsh, and 13 yards east of edge of marsh. There are no permanent reference objects near station. Cement monument marking reference station is 15.84 meters N 10° 23′ E of observed station..

Marks.—Observed station is nail in stub flush with surface of marsh. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Battle" (S 39° 02′ E)	0	00	00		1⅛ miles.
Right tangent of Long Marsh	7	53	--		2 miles.
Near end of peak of roof of De La Brooke Pier	73	52	--		1½ miles.
Near corner of near chimney of Thomas house	83	31	--		1¾ miles.
Large house	167	38	--		1 mile.
Square chimney of large house	185	23	--		¾ mile.
REFERENCE STATION	229	24	40		15.84 meters.
Left chimney of house	243	56	--		2½ miles.
Hance house	299	13	--		2 miles.
Right chimney of house among trees on hill	327	24	--		4 miles.
Left chimney of house	336	59	--		4 miles.

OPPKIT.

General locality.—Southwest shore of Patuxent River on Marsh Point. (See Chart No. 19.)

Immediate locality.—Observed station is on sand and grass ridge between sand beach and marsh, about 1 foot above high water, 3 yards southwest of high water mark, 60 yards west-northwest of one point of the beach, 64 yards south of another point of the beach, and 85 yards north-northwest of an oyster watch house on piles. There are no permanent reference objects near station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Kitt" (N 56° 31′ E)	0	00	00		1½ miles.
Near end of peak of roof of Williams Wharf house	36	46	--		2½ miles.
Left corner of watch house	87	27	--		85 yards
Left point of peak of roof of De La Brooke Pier	94	09	--		1 mile.
Right corner of right chimney of brick house	126	42			½ mile.
Chimney on house near trees	232	43	--		¾ mile.
Highest chimney on Cremona House	254	49	--		⅞ mile.
Point of roof of Dukes Wharf	310	09	--		1½ miles.
Chimney on house with ell	330	49	--		1½ miles.
Large square brick chimney on house with ell	334	08	--		1½ miles.
Nearest chimney of pair on end of house	353	00	--		1½ miles.

BATTLE.

General locality.—Northeast shore of Patuxent River on west side of entrance to Battle Creek on Prison Point. (See Chart No. 19.)

Immediate locality.—Observed station is on sand and grass land between marsh and river, about 1 foot above high water, 85 yards south of a field, 6 yards northeast of shore, 20 yards southwest of edge of a pool, 100 yards southwest by west of a lone tree, 200 yards west of a small house among trees, and 100 yards west to northwest of several dwarf trees between house and beach.

Marks.—Observed station is center point of triangle on standard cement monument.

References—

	°	′	″		
"Forr" (S 3° 17′ E)	0	00	00	------	2¼ miles.
Chimney on middle of roof of house	1	52	--	------	2¼ miles.
Left corner of left chimney of very large house	8	36	--	------	2¼ miles.
Right chimney of large 2½-story brick house	82	00	--	------	1½ miles.
Tangent to Sheridan Point	129	20	--	------	2½ miles.
Right end of peak of roof of 2½-story house	139	50	--	------	2¼ miles.
Chimney of 2½-story house on hill	155	19	--	------	2 miles.
Lone tree	254	41	--	------	80 yards.
Outside chimney of house on hill	264	11	--	------	3 miles.
House among trees	282	15	--	------	100 yards.
Tangent of Long Marsh	341	45	--	------	1½ miles.
Left chimney of 2½-story house	348	38	--	------	3 miles.
Chimney of 2½-story house	352	57	--	------	2 miles.
Right tangent of Forrest Wharf	357	59	--	------	1½ miles.

PHOTO.

General locality.—Northeast side of Patuxent River on east side of entrance to Jacks Bay. (See Chart No. 19.)

Immediate locality.—Observed station is in a cultivated field, about 150 yards north-northeast of a marshy point, 10 feet above high-water mark, 49 yards east of shore, 110 yards north northwest of shore, and 68 yards northeast of right end of clump of trees at edge of field and beginning of marsh point.

Marks.—Observed station is nail in stub with top 2 inches above surface of ground. Subsurface mark is center point of triangle on standard cement monument with top 12 inches below surface.

References.—

	°	′	″		
"Slim" (S 52°·03′ E)	0	00	00	------	1⅜ miles.
Chimney on old house	51	21	--	------	2 miles.
Cedar trees	60	00	--	------	85 yards.
Left corner of house	73	03	--	------	2 miles.
Smoke pipe on house behind trees	78	08	00	------	2 miles.
Left tangent of Forrest Wharf	81	00	20	------	2¼ miles.
Tree	90	10	--	------	70 yards.
Watchhouse on point	118	52	--	------	½ mile.
Right chimney on 2½-story brick house	150	37	--	------	5 miles.
Locust tree (20 inches diameter)	241	23	--	------	135 yards.
Left chimney of house	222	45	--	------	½ mile.
Willow tree	331	27	--	------	140 yards

FIGHT.

General locality.—Southwest shore of Patuxent River opposite mouth of Battle Creek on a prominent low point. (See Chart No. 19.)

Immediate locality.—Observed station is on land known as Horsehead Marsh, about 1 foot above ordinary high-water mark, 12 yards south-southwest of extreme end of point, 15 yards west-northwest of shore at small creek, 40 yards northeast of woods, and 110 yards east-southeast of a bluff 50 feet high.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Battle" (N 50° 45′ E)	0	00	00		1¾ miles.
Outside chimney in center of group of buildings	13	30	--		2¼ miles.
Left chimney of house on top of hill	23	44	--		3¾ miles.
Left tangent of Forrest Wharf	82	06	10		2 miles.
Near end of peak of roof of 2½-story building	83	47	--		1¾ miles.
Large square chimney on large building	91	19	--		1 mile.
Left corner of left chimney of large house	262	40	--		1 mile.
Dowells windmill	300	28	--		2½ miles.
Left chimney on small house adjoining large house	321	41	--		2¼ miles.
Chimney of small house	325	38	--		2 miles.

SLIM.

General locality.—Northeast shore of Patuxent River about half way between Battle and Island creeks and ½ mile west northwest of Parkers Wharf. (See Chart No. 19.)

Immediate locality.—Observed station is in a field on a sand bluff, about 40 feet above high water, 13 yards northeast of edge of bluff, 90 yards southeast of a point of woods at top of a ravine, about 189 yards southwest of another point of woods, 150 yards west-northwest of a rail fence, and 71 yards northwest by west of a large sycamore tree.

Marks.—Observed station is nail in round chestnut stub with top about 6 inches above the surface of the ground. Subsurface mark is center point of triangle on standard cement monument with top 10 inches below the surface of the ground.

References.—	°	′	″		
"Island" (S 59° 31′ E)	0	00	00		2½ miles.
Cedar in field	2	38	50		200 yards.
Large sycamore tree	29	20	--		71 yards.
Near end of peak of roof of Jones Wharf house	53	27	--		2½ miles.
Chimney on middle of roof of a long house	109	34	--		1¾ miles.
Outside chimney of house near Forrest Wharf	125	26	--		2 miles.
Nearest chimney on Thomas large brick house	166	16	--		4 miles.
Tangent of Long Point marsh	171	24	--		1½ miles.
Left tree on point	191	06	--		90 yards.
Two high trees close together near right edge of point of woods	284	27	--		189 yards.
Large walnut tree	298	20	--		¼ mile.
Near end of peak of roof of barn	304	23	--		½ mile.

FORR.

General locality.—Southwest shore of Patuxent River just below Forrest Wharf. (See Chart No. 19.)

Immediate locality.—Observed station is about 1 foot above high-water mark on sand and grass land, 7 yards south from extreme high-water mark, 45 yards southeast of land end of Forrest Wharf, 70 yards east by south of an old 2½-story building, and 65 yards northeast of a saloon.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Cole" (S 50° 07′ E)	0	00	00		1¾ miles.
Near corner of house on hillside	9	59	--		180 yards.
Near corner of saloon	101	52	--		65 yards.

	°	′	″		
Outside chimney on house on hill	115	22	--	------	⅛ mile.
Curve in road up hill	131	25	--	------	200 yards.
West corner of old 2½-story building	139	52	--	------	70 yards.
Land end of wharf	169	15	--	------	45 yards.
Windmill	182	59	40	------	2¾ miles.
Left corner of left chimney brick house	183	05	--	------	3 miles.
Right tangent of Dukes Wharf	187	07	--	------	4¼ miles.
Near end of peak of roof of Forrest Wharf house	257	17	--	------	⅛ mile.
Chimney of house	272	35	--	------	3 or 4 miles.
Right tangent of roof	304	23	--	------	2½ miles.
Tangent of trees	347	46	--	------	3 miles.

SWEEP.

General locality.—Northeast shore of Patuxent River on northwest side of mouth of Island Creek near inner end of neck of land joining Broome Island to the mainland. (See Chart No. 19.)

Immediate locality.—Observed station is in a field about 4 feet above high water, 4 feet northwest of a wire fence, 24 yards south by west of a stable, 60 yards south-southwest of a house, and 100 yards south-southeast of a pine grove. Cement monument marking reference station is 21.70 meters N 59° 39′ E of station and near fence line.

Marks.—Observed station is the center of an oblong wooden box 4 inches square with top 4 inches above the ground. Reference station is center point of triangle on a standard cement monument.

References.—

	°	′	″		
"Bars" (S 15° 10′ E)	0	00	00	------	2 miles.
Right chimney of house	14	48	--	------	.3 miles.
Peak of roof of Gadden house	25	34	20	------	1⅝ miles.
Tangent of Broome Island Point	43	21	--	------	½ mile.
Chimney on house on hill	51	57	--	------	3 miles.
Gilt ball on lightning rod	62	03	--	------	⅜ mile.
Chimney on house	96	06	--	------	¼ mile.
Cut in woods	135	40	--	------	1⅞ miles.
Chimney of house	186	34	--	------	150 yards.
Tile smoke pipe on house	203	24	--	------	140 yards.
Near corner of house	230	35	--	------	60 yards.
Near corner of barn	237	32	--	------	24 yards.
REFERENCE STATION	254	49	20	------	21.70 meters.
Right chimney of four on house	279	25	--	------	¼ mile.
Top of tower of house	301	54	--	------	2½ miles.

ISLAND.

General locality.—Northeast shore of Patuxent River on the extreme southeast point of land about ½ mile to the east of the mouth of Island Creek. (See Chart No. 19.)

Immediate locality.—Observed station is on a marshy point at about extreme high-water mark, 30 yards north of extreme end of point, 25 yards east of one side of point, and 20 yards west of another side of point. Old tile pipe used as a reference station is 16.98 meters N 12° 39′ E and cement monument marking new reference station is 30.93 meters N 2° 40′ E of observed station.

Marks.—Observed station is nail in stub with top flush with marsh. Old reference station is center of 4-inch tile pipe set in cement with top projecting about 10 inches above ground. New reference station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Wheat" (S 53° 15′ E)	0	00	00	------	2 miles.
Left end of peak of roof of Sotterly Wharf house	46	07	--	------	2 miles.
Pinnacle of large house in trees	60	49	--	------	2 miles.

	°	′	″		
Left chimney of large house back on hill	67	54	--	------	2 miles.
Chimney on middle of large 2½-story house	109	59	--	------	1½ miles.
Middle of railing on top of roof of 2½-story house	120	00	--	------	3 miles.
Chimney of Broome house	143	41	--	------	¾ mile.
Weather vane on Broome house	148	33	30	------	¾ mile.
Right chimney of house	178	21	--	------	3 miles.
Right chimney of house	193	27	--	------	2 miles.
REFERENCE STATION (cement monument)	235	55	00	------	30.93 meters.
REFERENCE STATION (tile pipe)	245	54	20	------	16.98 meters.
Smoke pipe of watchhouse	333	29	--	------	1 mile.
Tower of Peterson house	356	08	--	------	2 miles.

PEAK.

General locality.—Northeast shore of Patuxent River, about in middle of inner shore of a large bay between St. Leonard and Island creeks. (See Chart No. 19.)

Immediate locality.—Observed station is on Parran house, located near shore at extreme end of a road leading to Wallville.

Marks.—Observed station is ball on tip of tower.

References.—None necessary.

COLE.

General locality.—Southwest shore of Patuxent River, about ¼ mile northwest of Cole Creek. (See Chart No. 19.)

Immediate locality.—Observed station is about 35 feet above high-water mark on a grass peninsula, 3 yards south-southwest of edge of a bluff which is washing rapidly, 8 yards west of extreme edge of bluff, where it turns inland and is not washing, but slopes gradually to the water, 8 yards north of another edge of the bluff, 10 yards northwest of trees on slope of bank, and 20 yards west of a cherry tree 2 feet in diameter. Cement monument marking reference station is 13.53 meters S 83° 10′ W of observed station and nearly on line with large cherry tree.

Marks.—Observed station is nail in stub with top flush with ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Hutchins" (S 67° 12′ E)	0	00	00	------	2 miles.
Left end of peak of roof on Jones Wharf house	6	25	--	------	1½ miles.
Nail in blaze on limb of oak tree (4 inches diameter)	22	05	--	------	10.80 meters.
Screw in blaze in crotch of oak tree (15 inches diameter at base)	38	18	--	------	12.67 meters.
Nail in blaze of cedar tree (6 inches diameter)	63	40	40	------	8.43 meters.
Nail in blaze on cherry tree (24 inches diameter)	147	11	--	------	18.65 meters.
REFERENCE STATION	150	22	00	------	13.53 meters.
Right chimney of house	179	11	--	------	¼ mile.
Right end of peak of roof of Forrest Wharf house	202	21	--	------	1½ miles.
Right end of house	251	05	--	------	3 miles.
Left end of peak of house	280	23	--	------	3 miles.
Gilt ball on Broome house	321	30	30	------	2 miles.
Right tangent of Broome Island	334	17	--	------	1¾ miles.

HUTCHINS.

General locality.—Southwest shore of Patuxent River opposite Broome Island on Captain Point, about ¼ mile northwest of mouth of Cole Creek. (See Chart No. 19.)

Immediate locality.—Observed station is in garden on point of a bluff 50 feet high on Hutchins estate near house occupied by Mr. Gadden, about 6 yards south by east of extreme point of bluff, 2 yards southwest of edge of bluff, 4 yards southeast of edge of bluff, 30 yards north by west from house, 30 yards west of a wire fence running north and south, and 15 yards east of another north-and-south wire fence. Cement monument marking reference station is 7.57 meters S 59° 39′ W of observed station.

Marks.—Observed station is nail in a stub with top flush with ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Bars" (S 68° 07′ E)	0	00	00	⅞ mile.
Left corner of extension of Gadden house	58	17	--	30.90 meters.
Right front corner of Gadden house	84	56	--	28.57 meters.
Near corner of well house	102	15	--	30.44 meters.
Near corner of shed	119	43	--	45 yards.
REFERENCE STATION	127	46	--	7.57 meters.
Nail in blaze in apple tree (22 inches diameter)	148	06	20	9.35 meters.
Right tangent of Parkers Wharf	228	12	--	2½ miles.
Gilt ball on Broome house on Broome Island	249	55	--	1¾ miles.
Near end of peak of house	263	17	--	4 miles.
Tip of tower on Peterson house	332	52	--	2¼ miles.

WHEAT.

General locality.—Northeast shore of Patuxent River on westerly side of mouth of St. Leonard Creek. (See Charts Nos. 19 and 20.)

Immediate locality.—Observed station is on a bluff about 40 feet above high water, about 5 yards west of edge of bank, 7 yards south of another edge, and ⅜ mile west of Peterson house. Cement monument marking reference station is 12.80 meters N 61° 55′ E of observed station and on line to Peterson house.

Marks.—Observed station is center of a 4-inch tile pipe set in cement with top projecting about 4 inches above ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Stump" (S 36° 23′ E)	0	00	00	2¼ miles.
Left chimney of Judge Crane house	10	07	--	4¾ miles.
Near end of peak of roof of Marburger house.	15	05	--	4¼ miles.
Left end of roof of St. Cuthbert Wharf	24	09	--	2¼ miles.
Chimney on roof of house	60	05	--	1½ miles.
Chimney on store at Sotterly	93	41	--	1½ miles.
Left end of barn roof	193	27	--	2 miles.
REFERENCE STATION	278	17	30	12.80 meters.
Center chimney of Peterson house	281	22	--	¼ mile.
Chimney of house	298	03	--	⅛ mile.
Chimney on house on Breeden estate	340	04	--	2 miles.

MACKALL.

General locality.—Northwest shore of Patuxent River on west side of entrance to St. Leonard Creek on first point inside of Peterson Point. (See Charts Nos. 19 and 20.)

Immediate locality.—Observed station is about 50 feet above high water, 9 feet northwest of edge of bluff, 7 yards northeast of bushes, and 3 yards southwest of other bushes. Cement monument marking reference station is 3.80 meters N 35° 08′ W of observed station.

Marks.—Observed station is the center of an oblong wooden box 4 inches square with top 3 inches above the ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Stock" (S 34° 38′ W)	0	00	00		1¾ miles.
Peak of front gable of Bond house	0	39	10		1¾ miles.
Chimney on negro house	54	31	--		⅜ mile.
Chimney on Peterson house	66	25	--		¼ mile.
REFERENCE STATION	110	13	50		3.80 meters.
Chimney on negro house	135	49	--		⅜ mile.
Chimney on ell of house on hill	153	46	--		½ mile.
Chimney on small house back of Sollers Wharf	229	40	--		1 mile.
Nearest outside chimney on 1½-story house.	236	08	--		2 miles.
Large chimney on Sollers house	237	02	--		¾ mile.
Large chimney on Taylor house	285	27	--		½ mile.
Front peak of Briscoe house	334	30	--		2⅛ miles.

SOLLERS.

General locality.—Northeast shore of Patuxent River on east side of entrance to St. Leonard Creek. (See Charts Nos. 19 and 20.)

Immediate locality.—Observed station is about 50 feet above high water, 6 feet east of edge of bank, 20 yards north-northeast of a clump of trees, 14 yards and 8 yards south-southwest of other trees, and 75 yards north-northwest of a rail fence. Cement monument marking reference station is 13.68 meters S. 44° 00′ E of observed station with top buried 12 inches below surface.

Marks.—Observed station is the center of an oblong wooden box 5 inches square with top 3 inches above ground. Reference station is center point of triangle on standard cement monument with top 12 inches below surface.

References.—	°	′	″		
"Stock" (S 44° 24′ W)	0	00	00		1⅝ miles.
Middle of front gable of Bond house	0	34	--		1¾ miles.
Chimney of store at Sotterly Wharf	26	58	--		2⅛ miles.
Near corner of outside chimney on house	27	18	--		2¼ miles.
Chimney on top of Gadden house	46	14	--		2⅞ miles.
Near corner of top chimney on Peterson house	78	27	--		½ mile.
Right end of peak of roof of Mackall house	150	16	--		½ mile.
REFERENCE STATION	271	35	30		13.68 meters.
Near corner of large chimney on Taylor house	272	35	--		⅛ mile.
Top of front gable on Briscoe house	331	36	--		1¾ miles.

BARS.

General locality.—Southwest shore of Patuxent River on Sotterly Point about ¼ mile northwest of Sotterly Wharf. (See Chart No. 19.)

Immediate locality.—Observed station is on a bluff about 30 feet above high water, 5 yards south of edge of bank at rail fence, and 2 yards east of this same fence. Cement monument marking reference station is 14.53 meters S 9° 54′ W of observed station and near fence line.

Marks.—Observed station is center of a 3-inch tile pipe set in cement. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Wheat" (N 72° 06′ E)	0	00	00		1¼ miles.
Chimney on middle of 2½-story house	17	29	--		6 miles.
Windmill	23	23	--		3 miles.
Chimney of house	41	50	--		4 miles.
REFERENCE STATION	117	48	00		14.53 meters.
Smoke pipe on right end of house	157	37	--		¼ mile.
Tangent of point of land	250	47	--		1½ miles.
Peterson house chimney	359	22	--		1¾ miles.

LEND.

General locality.—Northeast shore of Patuxent River on a narrow strip of land or peninsula in mouth of Mears Creek about ½ mile southeast of St. Leonard Creek. (See Charts Nos. 19 and 20.)

Immediate locality.—Observed station is in the midst of many cherry, oak, and locust trees about 15 feet above high-water mark, 15 yards east-northeast of high ground, 5 yards west of edge and 17 yards north of extreme point of top of peninsula.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Wheat" (N 50° 51′ W)	0	00	00	1¼ miles.
Nail in blaze in cherry tree (4 inches diameter)	118	28	30	3.58 meters.
Right chimney of house across creek	139	51	--	¼ mile.
Nail in blaze in oak tree (8 inches diameter)	229	51	--	6.68 meters.
Outside chimney on left end of Briscoe house	265	61	--	1½ miles.
Near peak of Bond house	297	57	--	1⅝ miles.
Chimney on storehouse at Sotterly	318	19	--	2¼ miles.
Near end of peak of roof of Sotterly Wharf house	319	07	--	2¼ miles.
Chimney on Gadden house	330	47	--	3¼ miles.
Nail in blaze in cherry tree (6 inches diameter)	345	24	--	3.64 meters.

STOCK.

General locality.—Southwest shore of Patuxent River about 1 mile southeast of Sotterly Point. (See Chart No. 19.)

Immediate locality.—Observed station is on a bluff, about 20 feet above high water, 3 yards southwest of edge of bluff, about 50 yards east by north of front door of the house of Mr. Bond, 30 yards west-northwest of extreme end of point of bluff, 35 yards northeast of detached house, and about 43 yards east by south of yard fence at edge of bluff.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Lend" (N 66° 48′ E)	0	00	00	1⅝ miles.
Right chimney of house on Dickson place	1	35	--	1¾ miles.
Right chimney of old 1½-story house	19	00	--	2 miles.
Tangent of bluff	58	00	--	1 mile.
Chimney on house on point	59	03	--	1 mile.
Nail in blaze in locust tree (4 inches diameter)	99	48	30	2.18 meters.
Nearest corner of outhouse, corner farthest from house	161	29	30	34.30 meters.
Left corner of house	180	31	30	31.13 meters.
Nail in blaze in cherry tree 1 foot above ground (4 feet diameter)	183	39	30	20.58 meters.
Right corner of house	205	29	40	45.79 meters.
Locust tree (4 inches diameter)	210	31	40	8.83 meters.
End of yard fence	230	31	--	43 yards.
Tree near edge of bank (no nail or blaze)	237	39	20	34.27 meters.

STUMP.

General locality.—Northeast shore of Patuxent River about ½ mile northwest of Hellen Creek. (See Chart No. 20.)

Immediate locality.—Observed station is on a bank about 20 feet above high water, 10 yards north-northeast of edge of bank at extreme end of point, about 20 yards southeast of edge of bank, and about

150 yards northwest of a clump of cedar and locust trees at edge of bank. Cement monument marking first reference station is 11.29 meters N 61° 51′ E of observed station with top 10 inches below surface of field. Cement monument marking second reference station is 26.22 meters N 60° 42′ E of observed station about on line with first reference station.

Marks.—Observed station is center of 4-inch tile pipe set in cement with top flush with ground. First reference station is center point of triangle on standard cement monument with top 10 inches below the surface of ground. Second reference station is center point of triangle on standard cement monument with top 6 inches above surface of ground.

References.—	°	′	″	
"Wheat" (N 36° 23′ W)	0	00	00	2⅛ miles.
Chimney in center of house	15	09	--	¾ mile.
SECOND REFERENCE STATION	97	43	35	26.22 meters.
FIRST REFERENCE STATION	98	52	30	11.29 meters.
Apple tree	152	00	--	200 yards.
Left chimney of house	180	19	--	¾ mile.
Near end of peak of roof of Marburger house	209	27	--	2¼ miles.
Left chimney of house	269	21	--	1¼ miles.
Nail in blaze in stump (30 inches daimeter)	250	49	--	5.01 meters.
Nail in blaze in tree (8 inches diameter)	352	30	--	17.52 meters.

BRISCOE.

General locality.—Southeast shore of Patuxent River about ¼ mile northwest of St. Cuthbert Wharf. (See Chart No. 19.)

Immediate locality.—Observed station is in a cultivated field, about 20 feet above high water, 80 yards southwest of trees on bank, 50 yards southeast of a creek bed, 46 yards northwest of a clump of trees, 105 yards east of a corner of fence on road, and about 300 yards northeast of another fence with woods back of it. Cement monument marking reference station is 12.52 meters N 79° 35′ W of observed station.

Marks.—Observed station is a nail in a stub with top flush with ground and a subsurface mark of a standard cement monument with top buried 11 inches below the surface. Reference station is center of triangle on standard cement monument with top 5 inches above surface of ground.

References.—	°	′	″	
"Hellen" (S 71° 37′ E)	0	00	00	1⅝ miles.
Near corner of house	45	11	--	¾ mile.
Left end of peak of roof of barn	57	18	--	¾ mile.
Large two-forked tree	129	17	--	130 yards.
Corner of rail fence and tree	136	34	--	105 yards.
REFERENCE STATION	172	01	40	12.52 meters.
Large cherry tree other side of creek	195	00	--	68 yards.
Left chimney of house on opposite side with three dormer windows	304	54	--	1½ miles.
Cedar tree	308	59	--	80 yards.

HELLEN.

General locality.—Northeast shore of Patuxent River on east side of mouth of Hellen Creek. (See Chart No. 20.)

Immediate locality.—Observed station is at high-water mark on edge of grass and bushes, about 16 yards west-southwest of a bluff 15 feet high, and about 40 yards north-northwest of bluff at edge of water. Cement monument marking reference station is 12.45 meters N 75° 14′ E of observed station.

Marks.—Observed station was the center of a tile pipe with a subsurface mark of a green yeast-powder bottle but at date of publication these marks are reported to have been washed away. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Stump" (N 25° 42′ W)	0	00	00	------	⅞ mile.
Left chimney of Barrett house	8	54	--	------	¾ mile.
Nail in blaze in tree	100	01	40	------	14.74 meters.
REFERENCE STATION	100	56	20	------	12.45 meters.
Near end of peak of roof of Marburger house	209	54	--	------	1½ miles.
Mouth of Cuckold Creek	261	00	--	------	1½ miles.
Chimney of Peterson house	355	14	--	------	3 miles.

NAT.

General locality.—Southwest shore of Patuxent River about ½ mile above mouth of Cuckold Creek. (See Chart No. 20.)

Immediate locality.—Observed station is near edge of a cultivated field on a bluff of sand and gravel about 20 feet above high water, 4 feet east of edge of bluff, and 150 yards north of a rail fence. Cement monument marking reference station is 18.44 meters S 29° 47′ W of observed station with top 8 inches below surface of ground.

Marks.—Observed station is center of 3-inch tile pipe embedded in cement. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Hellen" (N 69° 29′ E)	0	00	00	------	1¼ miles.
Near end of peak of roof of Marburger house on Point Patience	68	01	--	------	1½ miles.
REFERENCE STATION	140	18	00	------	18.44 meters.
Large chimney on house	281	58	--	------	3 miles.
Right chimney of house with two gable roofs	309	01	--	------	2 miles.

TON.

General locality.—Eastern shore of Patuxent River about 1 mile northeast of Point Patience. (See Chart No. 20.)

Immediate locality.—Observed station is on a bluff about 15 feet above high water, 10 yards east from edge of bluff, 50 yards south-southwest of edge of a gully and a clump of trees, and about 220 yards west-northwest of a cherry tree 3½ feet in diameter. Cement monument marking reference station is 13.64 meters S 62° 29′ E of observed station.

Marks.—Observed station is a spike set in cement. Reference station is center point of triangle on standard cement monument buried below surface 10 inches.

References.—	°	′	″		
"Mill" (S 65° 00 W)	0	00	00	------	1¼ miles.
Chimney on far end of Wallace house	53	28	--	------	1¾ miles.
Chimney on middle of roof on McCorry store	60	09	--	------	2 miles
Near end of peak of St. Cuthbert Wharf house	62	10	--	------	2 miles
Near end of peak of roof of Parran oyster watch house	83	03	--	------	5½ miles
Chimney on Peterson house	85	39	--	------	3¾ miles
Cemented chimney on near end of George old house	94	59	--	------	1 mile.
Left chimney of Costen house	117	59	--	------	½ miles.
Nail in blaze in tree	137	35	20	------	47.60 meters.
REFERENCE STATION	232	31	00	------	13.64 meters.
Left chimney of Marburger house	329	11	--	------	¾ mile.

MILL.

General locality.—Southwest shore of Patuxent River about ½ mile southeast of mouth of Cuckold Creek and ¼ mile northwest of Point Patience. (See Chart No. 20.)

Immediate locality.—Observed station is on a sand bluff about 20 feet above high water, 7 yards southwest of the edge of the bluff, 40 yards southeast of a fence and a line of cedar trees, and about 100 yards northwest of another fence at bottom of hill. Cement monument marking reference station is 13.76 meters S 28° 14′ W of observed station.

Marks.—Observed station is center point of 3-inch tile pipe embedded in cement. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Ton" (N 64° 59′ E)	0	00	00	1¼ miles.
Nearest chimney of Marburger house on Point Patience	39	01	--	¾ mile.
"Catholic Church Cross"	43	03	40	2 miles.
"Methodist Episcopal Church Spire"	49	23	30	2 miles.
Middle of portico of Judge Crane house	82	22	--	1 mile.
Windmill near Dent house	136	47	--	½ mile.
REFERENCE STATION	143	14	40	13.76 meters.
Chimney on house among farm buildings	293	28	40	4¼ miles.
Left chimney on house with piazza	304	02	--	2¾ miles.
End of peak of roof of 2½-story house	323	31	--	1¾ miles.
Nearest chimney of cottage	338	17	--	2 miles.
Left chimney of house	340	19	--	2 miles.

BUR.

General locality.—East shore of Patuxent River, on northwest side of Point Patience, about ¼ mile northeast of its extreme end. (See Chart No. 20.)

Immediate locality.—Observed station is on sand and grass land, about 1 foot above high water, 12 yards southeast of high-water mark on one side of point, 36 yards northwest of high-water mark on other side of point, and about 300 yards northeast of extreme end of point. Cement monument marking reference station is 12.15 meters N 85° 20′ E of observed station.

Marks.—Observed station is a 3-inch tile pipe set in cement with top about 1 inch above the surface of the ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Ton" (N 37° 56′ E)	0	00	00	1 mile.
Left chimney of Marburger house	16	08	--	¼ mile.
REFERENCE STATION	47	24	30	12.15 meters.
"Methodist Episcopal Church Spire"	75	32	10	1⅜ miles.
Middle gable of Judge Crane house	139	09	--	½ mile.
Nail in blaze in pine tree (8 inches diameter)	162	40	10	25.94 meters.
Square chimney on Dent house	228	30	--	¾ mile.
Chimney on house	268	52	--	1⅝ miles.
Left chimney of house	346	39	--	1¼ miles.
Right chimney of house	358	31	--	1⅛ miles.

NEW.

General locality.—Northeast side of Patuxent River, about ¾ mile east of Point Patience and about 1¼ miles northwest of Sandy Point. (See Chart No. 20.)

Immediate locality.—Observed station is about 20 feet above high-water mark in the middle of a cultivated field on Strathmore farm, about 230 yards northeast of shore of Patuxent River, about 82 yards southeastof a creek, about 162 yards northwest of a small creek or ditch, 230 yards northeast of a large oak tree, and 250 yards north of another large oak tree.

Marks.—Observed station is center point of triangle on standard cement monument with top 11 inches below the surface of the ground.

References.—

	°	′	″	
"Ben" (S 2° 10′ E)	0	00	00	2 miles.
Chimney on flat-roof house	6	59	--	1¾ miles.
Chimney on main part of a house on Town Creek	27	11	--	1¼ miles.
Oak tree about 18 inches diameter on edge of field	43	54	--	227 yards.
Right tangent of Spencers wharf	56	04	--	1 mile.
Corner of field	67	00	--	310 yards.
Exposed chimney on left of house	67	36	--	1½ miles.
Left chimney on house	88	57	--	1½ miles.
Corner of field	206	00	--	240 yards.
Corner of field	258	00	--	300 yards.
Silver-tipped tower on Philip Vale house	307	08	20	½ mile.
Oak at edge of field	343	35	--	300 yards.

CATHOLIC CHURCH CROSS.

General locality.—Southeast side of Patuxent River, about halfway to Back Creek and ¾ mile northwest of Solomons wharf. (See Chart No. 20.)

Immediate locality.—Observed station is on Catholic Church, known as St. Marys Star of the Sea, located in small village of Johnstown on mainland near Solomons Island, and about 250 yards north of causeway to Solomons Island.

Marks.—Observed station is center of cross on bell cupola.

References.—None necessary.

CABLE.

General locality.—Southwest shore of Patuxent River, on east side of entrance to Kings Creek, and about ¾ mile west of Town Point. (See Chart No. 20.)

Immediate locality.—Observed station is on pasture land near the end of high land at the beginning of a long, low peninsula which almost closes the mouth of Kings Creek, about 30 feet above high-water mark, about 20 yards south of edge of bank on river side, about 15 yards east northeast of edge of bank on creek side, 38 yards southeast of extreme edge of top of bank, and 30 yards west of a persimmon tree.

Marks.—Observed station is center point of triangle on standard cement monument buried with top 10 inches below the surface of ground.

References.—

	°	′	″	
"Bur" (N 35° 17′ E)	0	00	00	¾ mile.
Left chimney of Marburger house near Point Patience	3	25	--	¾ mile.
"Catholic Church Cross"	43	59	--	1¾ miles.
"Methodist Episcopal Church Spire"	52	29	--	1¾ miles
Left chimney of Judge Crane house	55	44	--	½ mile.
Nail in blaze of tree (18 inches diameter)	179	22	20	19.24 meters.
Nail in blaze in red cedar tree (3 inches diameter)	236	25	--	16.80 meters.
Nail in blaze in persimmon tree	283	52	10	26.22 meters.
Right chimney on Fenner Lee house	284	14	--	⅜ mile.
Left chimney of house	302	24	--	½ mile.

TOWN.

General locality.—Southwestern shore of Patuxent River, on Town Point, about ¾ mile southeast of Point Patience. (See Chart No. 20.)

Immediate locality.—Observed station is about 20 feet above high-water mark, 9 yards west of edge of bluff, 3 yards south of edge of bluff, 10 yards southeast of extreme edge of high land, 3 yards south of a rail fence, and 2 yards north of cultivated land.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Back"	0	00	00	------	½ mile.
"Catholic Church Cross"	8	58	20	------	1 mile.
"Methodist Church Spire"	25	41	20	------	¾ mile.
Cupola on Files store	29	11	--	------	¾ mile.
Nearest chimney on Webster house	43	06	--	------	1¾ miles.
Right end of roof of 2½-story building at Pearsons	67	56	--	------	3 miles.
Near corner of tower on Hodgdon house	93	01	--	------	2⅜ miles.
Chimney on old house	108	18	--	------	1⅜ miles.
Chimney on house	142	53	--	------	1 mile.
Left chimney on Lee house	227	04	--	------	1½ miles.
Marburger house	281	00	--	------	¾ mile.

CRANE.

General locality.—Southwest side of Patuxent River, on northeast side of Town Creek, about ¼ mile southwest of Town Point. (See Chart No. 20.)

Immediate locality.—Observed station is in a cultivated field on Judge Crane farm, about 8 feet above high-water mark, 58 yards east northeast of Town Creek, 105 yards west of a fence, 115 yards west-northwest of a large cherry tree, 200 yards southeast of several detached buildings, and 20 yards east of top of a ravine.

Marks.—Observed station is center point of triangle on standard cement monument with top 10 inches below ground.

References.—	°	′	″		
"New" (N 36° 51′ E)	0	00	00	------	1 mile.
"Catholic Church Cross"	29	25	--	------	1¼ miles.
Stack on ice plant	37	25	--	------	1¼ miles.
Methodist Episcopal Church Tower	42	15	--	------	1¼ miles.
Cherry tree (4 feet diameter)	71	26	--	------	115 yards.
Canning-house stack	157	27	--	------	¼ mile.
House on point	185	20	--	------	¼ mile.
Chimney on house	244	30	--	------	¾ mile.
Lightning rod on cupola of Judge Crane barn	277	01	30	------	¼ mile.
Right tangent to St. Cuthbert wharf	300	08	--	------	2¾ miles.
Near end of peak of roof of Marburger house	320	49	--	------	⅞ mile.
Middle of gateway	355	23	--	------	⅛ mile.
Oak tree on opposite shore of Patuxent River	359	16	50	------	1 mile.

M. E. CHURCH (SOLOMONS).

General locality.—Northeastern shore of Patuxent River, on upper end of Solomons Island, about ½ mile northwest of Sandy Point. (See Chart No. 20.)

Immediate locality.—Observed station is on Methodist Church at upper end of Solomons Island near beginning of causeway to mainland.

Marks.—Observed station is tip of pyramidal tower on Methodist Church.

References.—None necessary.

K. OF P. FLAGSTAFF (SOLOMONS).

General locality.—Northeastern side of Patuxent River, on Solomons Island, in the town of Solomons. (See Chart No. 20.)

Immediate locality.—Observed station is on flagstaff in front of Knights of Pythias Building.

Marks.—Observed station is center of flagstaff at about the same height as roof of the K. of P. Hall.
References.—None necessary.

SAND.

General locality.—Northeastern side of Patuxent River on Sandy Point on extreme southern point of Solomons Island. (See Chart No. 20.)

Immediate locality.—Observed station is on pasture land about 5 feet above high water, 30 yards north of extreme point of planking protecting the shore from washing, 15 yards northeast of the extreme edge of sand and grass line, and about 13 yards east of top of bank. Cement monument marking reference station is 13.64 meters N 2° 19′ E of observed station.

Marks.—Observed station is nail in southwest side of a 6-inch pile driven into ground with top 6 inches above the surface. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Drum Point Light" (N 83° 57′ E)	0	00	00	2 miles.
Right tangent of woods on Hog Point	14	36	--	3 miles.
Left end of peak of roof on 2½-story building at Pearsons	51	03	--	2 miles.
Chimney on storehouse at Millstone	74	18	--	1¾ miles.
Near point of gable of Hodgdon large house with square tower	93	54	--	1½ miles.
Near end of peak of roof of Marburger house	225	22	--	1¾ miles.
Warren house opposite Johnson store	261	22	--	¼ mile.
REFERENCE STATION	278	22	10	13.64 meters.
"K. of P. Flagstaff"	291	58	--	¼ mile.
Right chimney of Dr. Marsh house	320	38	--	⅛ mile.
"Bareda House Cupola"	347	48	30	1½ miles.

FISHSTACK.

General locality.—Northeastern side of Patuxent River on northeastern side of entrance to Mill and Back creeks. (See Chart No. 20.)

Immediate locality.—Observed station is on mainland on fish fertilizer factory located on opposite side of creek from Solomons Island.

Marks.—Observed station is center of smokestack on fish factory.

References.—None necessary.

BON.

General locality.—North shore of Patuxent River about 1¼ miles west-northwest of Drum Point Light and about ½ mile east-northeast of Solomons Island. (See Chart No. 20.)

Immediate locality.—Observed station is on cultivated land, about 5 feet above high water, about 7 yards north of shore, about 90 yards southeast of a 1½-story house on land 10 feet higher than station, and about 75 yards south of a 1½-story brick house. Cement monument marking reference station is 0.67 meters N 45° 29′ E of observed station.

Marks.—Observed station is an inverted nail in center of cement in a 6-inch tile pipe with top flush with surface of ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Drum Point Light" (S 73° 43′ E)	0	00	00	1¼ miles.
Smoke pipe on oyster watch house	33	32	--	½ mile.
Left end of peak of roof on 2½-story building at Pearsons	52	06	--	2¼ miles.
Left end of peak of roof on house with piazza	82	29	--	2½ miles.

	°	′	″		
Near point of roof of Hodgdon house with square tower	89	14	--	------	2¼ miles.
Chimney on end of house	133	57	--	------	¾ mile.
Left chimney on Weems house	159	37	--	------	¼ mile.
Right chimney on wooden house	224	01	--	------	90 yards.
Left side of chimney on brick house	249	54	--	------	75 yards.
REFERENCE STATION	299	12	00	------	0.67 meters.
Near end of peak of house on bluff between trees	336	50	--	------	½ mile.
"Bareda House Cupola"	347	06	--	------	¾ mile.

BAREDA HOUSE CUPOLA.

General locality.—North side of Patuxent River about ¼ mile northwest of Drum Point Light. (See Chart No. 20.)

Immediate locality.—Observed station is on Bareda House which is a large 3-story square mansion with square cupola with three windows on each side and a porch all around ground floor, located about 100 yards back from shore on high land.

Marks.—Observed station is center of ornamental design of four brackets on center of cupola.

References.—None necessary.

DRUM POINT LIGHT.

General locality.—Northeastern side of entrance of Patuxent River and a short distance off shore from Drum Point. (See Chart No. 20.)

Immediate locality.—Observed station is on a screw pile structure known as Drum Point Light-House.

Marks.—Observed station is center of black lantern on Drum Point Light-House.

Reference.—

	°	′	″		
"Cedar Point Light" (S 64° 33′ E)	0	00	00	------	3¼ miles.

BEN.

General locality.—Southwestern shore of Patuxent River about 1 mile south-southwest of Sandy Point and 1¼ miles south-southeast of Town Point. (See Chart No. 20.)

Immediate locality.—Observed station is on a clay and sand bluff in a cultivated field, about 20 feet above high-water mark, about 10 feet west of edge of bank, 3 feet south of point covered with scrub pines, about 15 yards northeast of one edge of plateau, 10 yards southeast of another edge of plateau, about 65 yards north of point of woods, and 10 yards south of cut in bank which is washing rapidly. Cement monument marking reference station is 8.42 meters S 56° 15′ W of station.

Marks.—Observed station is nail in cement in 6-inch tile pipe with top flush with ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Drum Point Light" (N 68° 07′ E)	0	00	00	------	2¾ miles.
Left tangent of trees on Hog Point	16	21	--	------	3¾ miles.
Near end of peak of roof of large 2½-story building at Pearsons	39	36	--	------	2¼ miles.
Near piazza post of Millstone Hotel	56	11	--	------	1¾ miles.
Chimney of Craddock house	60	28	--	------	1¼ miles.
Chimney on end of cabin	97	24	--	------	200 yards.
Tall pine tree	138	35	--	------	50 yards.
REFERENCE STATION	168	08	00	------	8.42 meters.
Nail in blaze in pine tree (4 inches diameter)	176	33	50	------	7.79 meters.
Nail in blaze in pine tree (4 inches diameter)	223	40	40	------	8.77 meters.

	°	′	″		
Nail in blaze in pine tree (4 inches diameter)	236	39	--	------	2.07 meters.
Near end of peak of roof of Marburger house	272	12	--	------	2 miles.
"Catholic Church Cross"	304	54	40	------	1¼ miles.
"Bareda House Cupola"	350	34	40	------	2½ miles.

CRADDOCK.

General locality.—Southern shore of Patuxent River, about 2⅜ miles south-southeast of Drum Point Light and ¼ mile west of Millstone Landing. (See Chart No. 20.)

Immediate locality.—Observed station is on lawn about 15 feet above high-water mark, about 10 yards south from top edge of bank, 15 yards from bottom edge of bank and fence, 30 yards east of extreme edge of point, 30 yards northeast of trees along shore of pond, about 110 yards northwest of Craddock house and several outbuildings among poplar trees, 50 yards east of fence, and 70 yards west of driveway to house.

Marks.—Observed station is center point of triangle on standard cement monument, with top flush with lawn.

References.—

	°	′	″		
"Drum Point Light" (N 37° 15′ E)	0	00	00	------	2½ miles.
Left tangent of woods on Carroll Point	21	52	--	------	1¾ miles.
Near end of peak of roof of 2½-story building at Pearsons	42	25	--	--	1¼ miles.
Chimney on hotel at Millstone	64	56	--	------	½ mile.
Cottonwood tree (14 inches diameter)	68	54	--	------	80 yards.
Chimney on roof of Craddock 2½-story house	95	27	--	------	110 yards.
Nail in stump (14 inches diameter)	309	25	50	------	5.35 meters.
"Fishstack"	317	30	50	------	2 miles.

CARROLL 2.

General locality.—South side of Patuxent River, about 1 mile south-southwest of Hog Point and about 1 mile south of Drum Point Light. (See Chart No. 20.)

Immediate locality.—Observed station is on a sandy clay bluff in a cultivated field, about 50 feet above high-water mark, 4 feet south of top edge of bluff, 180 yards east of trees and ravine beyond cultivated field, 60 yards west of trees and ravine beyond cultivated field, 300 yards north of large square chimney on old-fashioned farmhouse, and 250 yards north of large tree to right of farmhouse. Cement monument marking reference station is 13.32 meters S 54° 30′ W of observed station. Another reference station is a nail in the east side of cement in a 6-inch tile pipe 14.64 meters S 13° 20′ E of observed station and on range with Drum Point Light.

Marks.—Observed station is center of 5-inch tile pipe with top 8 inches below surface of ground. Reference station is nail in cement on east side of a 6-inch tile pipe with top 6 inches below surface of ground. Another reference station is center point of triangle on standard cement monument with top 9 inches below surface of ground.

References.—

	°	′	″		
"Drum Point Light" (N 13° 20′ W)	0	00	00	------	1 mile.
Left tree on Hog Point	81	59	40	------	1 mile.
Right of bushes at edge of ravine	142	00	--	------	75 yards
Tree (12 inches diameter)	164	48	--	------	⅛ mile.
REFERENCE STATION (tile)	179	59	45	------	14.64 meters
Tree (20 inches diameter)	183	25	--	------	⅛ mile.
Chimney of Susquehanna farmhouse	192	10	--	------	300 yards.
Large tree	199	08	--	------	250 yards.
REFERENCE STATION (monument)	247	50	00	------	13.32 meters.
Right chimney of Fenner Lee house	302	45	--	------	4½ miles.

	°	′	″		
Center of four-sided roof on Doctor Marsh house	307	58	--	------	2¼ miles.
"Catholic Church Cross"	315	32	00	------	2¾ miles.
Silver tip on tower of Vale house	316	15	30	------	3 miles.
Chimney of Bowen house	327	16	--	------	2 miles.
"Bareda House Cupola"	348	44	00	------	1½ miles.

HOG 2.

General locality.—Southern shore of entrance to Patuxent River on Hog Point, about 1⅞ miles west-northwest of Cedar Point Light. (See Chart No. 20.)

Immediate locality.—Observed station is on a sand beach at high-water mark, 30 yards northwest of point of woods, and 200 yards north-northeast of nearest shore of Parsons Creek. Cement monument marking reference station is 33.35 meters S 42° 22′ E of observed station on a point of high land.

Marks.—Observed station is nail set in cement in a 6-inch tile pipe, with top 1 foot below the surface. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Drum Point Light" (N 60° 44′ W)	0	00	00	------	1¼ miles.
"Bareda House Cupola"	2	44	50	------	1½ miles.
Chimney of cabin on opposite shore	22	20	--	------	1½ miles.
Tangent of Little Cove Point	71	56	--	------	3½ miles.
"Cedar Point Light"	173	31	40	------	2 miles.
REFERENCE STATION	198	21	50	------	33.35 meters.
Nail in blaze in pine tree	201	03	--	------	29.58 meters.
Cabin on opposite side of Parsons Creek	243	05	--	------	¾ mile.
Chimney on Susquehanna farmhouse	301	04	--	------	1 mile.
"M. E. Church" (Solomons)	346	16	40	------	3¼ miles.
Steeple of Vale house at Avondale	350	55	--	------	3½ miles.

PAT.

General locality.—Western shore of Chesapeake Bay on Little Cove Point, about 1¾ miles south by west of Cove Point Light. (See Chart No. 20.)

Immediate locality.—Observed station is on the highest point of a thickly wooded bluff, about 75 feet above high-water mark, 4 yards west of edge of bluff, and 15 yards southwest of extreme point. Cement monument marking reference station is 24.57 meters S 71° 26′ W of observed station.

Marks.—Observed station is a 3-inch round stake set in cement, with top about 4 inches above surface of ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Cedar Point Light" (S 13° 54′ E)	0	00	00	------	4½ miles.
Near piazza post of house	14	52	--	------	4 miles.
REFERENCE STATION	85	20	00	------	24.57 meters.
Spike in blaze in tree (5 inches diameter)	94	51	--	------	6.54 meters.
Spike in blaze in tree (5 inches diameter)	114	10	--	------	3.42 meters.
Spike in blaze in tree (17 inches diameter)	138	54	--	------	12.26 meters.
Spike in blaze in tree (13 inches diameter)	181	46	--	------	5.50 meters.
"Cove Point Light"	203	25	30	------	1¾ miles.
"Hoopers Island Light"	327	58	10	------	10¼ miles.

CEDAR POINT LIGHT.

General locality.—Western shore of Chesapeake Bay on Cedar Point, 3¼ miles east-southeast of Drum Point Light and 6 miles south by east of Cove Point Light. (See Chart No. 20.)

Immediate locality.—Observed station is on a brick dwelling known as Cedar Point Light-House.

Marks.—Observed station is center point of lantern on Cedar Point Light-House.

Reference.—	°	′	″		
"Cove Point Light" (N 7° 16′ W)	0	00	00	------	6 miles.

CAIN.

General locality.—Western shore of Chesapeake Bay, about 1⅝ miles southwest of Cedar Point Light. (See Chart No. 20.)

Immediate locality.—Observed station is on a bank about 5 feet above high-water mark, about 20 yards northwest of ordinary high water, 5 yards northwest of extreme high water, 100 yards south-southwest of old-fashioned house among several large trees, and about 250 yards below small wharf and canning house. Cement monument marking reference station is 6.45 meters N 16° 56′ E of observed station.

Marks.—Observed station is a nail set in cement in a 3-inch pipe with top about 2 inches above ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Cedar Point Light" (N 46° 45′ E)	0	00	00	------	1⅝ miles.
Steeple on church	28	26	--	------	9½ miles.
"Hoopers Island Light"	56	28	40	------	7¾ miles.
"Point No Point Light"	106	05	--	------	11¾ miles.
Right chimney on Tarleton house	135	12	--	------	3¼ miles.
Near end of peak of 2-story house	148	41	--	------	1¾ miles.
REFERENCE STATION	330	10	40	------	6.45 meters.
Near corner of house	335	13	--	------	100 yards.
Aspen tree in house yard	339	35	50	------	100 yards.

DESERT.

General locality.—Western shore of Chesapeake Bay, about 3 miles south-southwest of Cedar Point Light. (See Chart No. 20.)

Immediate locality.—Observed station is on sand and grass land, about 25 yards west from ordinary high-water mark, about at level of extreme high-water mark, 40 yards south of a fence, 10 yards east of a fence, 45 yards south of a creek, about 50 yards north of point of pine woods, and about 300 yards east of woods across marsh. Cement monument marking reference station is 5.29 meters N 31° 24′ W of observed station.

Marks.—Observed station is a 4-inch tile pipe projecting about 2 inches above surface of sand. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Cedar Point Light" (N 34° 05′ E)	0	00	00	------	3 miles.
Steeple on church	34	19	40	------	10½ miles.
"Hoopers Island Light"	59	08	40	------	8 miles.
"Point No Point Light"	113	27	30	------	11 miles.
Near end of peak of roof of Tarleton house	135	09	--	------	2 miles.
Point of woods	146	00	--	------	50 yards.
Nail in blaze in pine tree (14 inches diameter)	294	30	40	------	7.62 meters.
REFERENCE STATION	294	30	40	------	5.29 meters
Chimney on near end of house	336	38	--	------	½ mile.
Large square chimney on larger of two houses	344	48	--	------	1 mile.

BOUNDARIES OF OYSTER BARS.

EXPLANATION.

The law of the United States authorizing the cooperation of the Department of Commerce and Labor in the survey of natural oyster bars of Maryland provides for the designation and employment by the Department of Commerce and Labor of such officers, experts, and other technically qualified persons "as may be necessary to cooperate with the Maryland State Board of Shell Fish Commissioners in making a survey of and locating the natural oyster beds, bars, and rocks in the waters within the State of Maryland." The oyster laws of Maryland provide that the Maryland Shell Fish Commissioners, with the aid of such persons as may be designated by the Government, shall proceed "to have laid out, surveyed, and designated on the said charts the natural beds and bars, and shall cause to be marked and defined as accurately as practicable the limits and boundaries of the natural beds, bars, and rocks as established by said survey, and they shall take true and accurate notes of said survey in writing, and make an accurate report of said survey, setting forth such a description of landmarks as may be necessary to enable the said board, or their successors, to find and ascertain the boundary lines of the said natural oyster beds, bars, and rocks, as shown by a delineation on the maps and charts." The oyster laws of Maryland also provide in another section that there shall "be made a true and accurate survey of the natural oyster beds, bars, and rocks * * * with reference to fixed and permanent objects on the shore, giving courses and distances, to be fully described and set out in a written report of said survey."

Under the provisions of the laws quoted above the State of Maryland, in cooperation with the Department of Commerce and Labor, must define the boundaries of the natural oyster bars "as accurately as practicable" and also "with reference to fixed and permanent objects on the shore, giving courses and distances." The requirement of "as accurately as practicable" is easily fulfilled by definition of the location of the corners of the oyster bars by latitude and longitude. In fact, this method is probably the most satisfactory and accurate one that could be used for all purposes of legal definition or for relocation of the oyster-bar boundaries by competent engineers. Therefore the additional requirement of "giving courses and distances" is superfluous and is only fulfilled in the published definitions on account of the specific provisions of the law making it compulsory. This part of the description of boundaries has involved an immense amount of extra computations in order to prevent technical discrepancies between the latitude and longitude of a corner of an oyster bar and its distance and bearing from objects on shore of known latitude and longitude without adding anything to the accuracy and very little to the convenience of practical use of the descriptions of the oyster-bar boundaries.

As provided by law the boundaries of the oyster bars are all straight lines, but in the work already completed they have inclosed areas of all shapes from triangles to complicated 14-sided figures, and of all sizes from 4 acres to 7,548 acres. The sides have varied in length from 93 to 7,529 yards, and in some cases the corners of the boundaries have been practically at the triangulation stations from which they are located; while in other instances they were over 13,600 yards from the landmarks most available for the purpose of fixing their position.

The varied characteristics of the legal boundaries of the oyster bars indicated by the above statement, together with the complicated requirements of the law under which the survey has been made and the magnitude of the work with the consequent need of fixed and uniform methods, have made the problem of describing the boundaries one of considerable difficulty and great importance.

The boundaries of the oyster bars of Maryland, as established by the Shell Fish Commission and delineated on the Coast and Geodetic Survey charts and projections and on the leasing charts of the Commission, are technically defined and described by a method somewhat different from that used in other oyster surveys. But it is believed that the forms finally adopted will fulfill all needs of the survey for both the present and future.

METHOD OF DESCRIBING BOUNDARIES.

The descriptions have been arranged in tabular form, thus avoiding many hundred repetitions of the same words by making one explanation of the tables sufficient for all oyster bars in each county.

Title.—At the top of each tabular form is given the legal name of the oyster bar to be described, and the one by which it is known and designated in the published oyster records and on the oyster charts. The adopted name of the oyster bar is the one used locally, as nearly as could be ascertained by the hydrographic engineer of the Commission; and when there was no local name in common use a name was selected from one of the prominent features of the vicinity that would naturally suggest the section of the waters where the oyster bar was located.

Underneath the name, in parenthesis, is given the general locality of the oyster bar and the serial number of the "Maryland Oyster Chart" on which its legal boundaries are shown.[a]

First column.—This column, under the heading of "Corner of bar," gives the number corresponding to the corner of the boundary as shown on the charts and to the number on the buoy marking the actual corner of the bar. The numbers of the corners have been assigned by naming the southernmost point No. 1, thence proceeding in a clockwise direction around the bar; but where a corner of one oyster bar is identical with the corner of the boundaries of one or more other oyster bars only the number of the corner of the oyster bar being described in the table is given in this column.

Second and third columns.—These two columns, under the headings of "Latitude" and "Longitude," give the geographic positions of the corners. These positions have been adopted by the Commission as the primary technical definition of the location of the corners, and should be considered as final in case of a dispute arising from discrep-

[a] These charts can be obtained by application to the Superintendent of the Coast and Geodetic Survey at Washington, D. C.

ancies caused by other means of location. The latitudes and longitudes given in these columns are based on the United States standard datum of the Coast and Geodetic Survey, and the points thus defined can be relocated from distant triangulation stations of the Survey, even though all the landmarks and buoys originally used for their location have been destroyed by natural or other causes.

Fourth and fifth columns.—These two columns, under the general heading of "True bearing"[a] and the specific headings "Forward" and "Back," give bearings measured from a true north-and-south line. The three "Forward" bearings are from the corner of the boundary designated in the first column to the triangulation stations named on the corresponding lines in the last column, and the three "Back" bearings are from these same stations in the last column to the corresponding corner of boundary in the first column. The difference in minutes of arc between the forward and back bearings shown in some cases is actual and not accidental, and is due to the fact that the computations took into account the spheroidal shape of the earth.

Sixth column.—This column, under the heading of "Distance," gives the three computed distances in yards from the corner of the bar noted in the first column to the three triangulation stations named on the corresponding lines in the last column, and vice versa.

Seventh column.—This column, under the heading of "U. S. C. & G. S. triangulation station,"[b] gives the names of the landmarks from which were computed the corresponding "Latitude," "Longitude," "True bearing," and "Distance" of the "Corner of the bar" designated in the first column. A full description of the location and markings of these triangulation stations is given in another part of this publication under the heading of "Descriptions of triangulation stations."

SURVEYING METHODS FOR RELOCATION OF BOUNDARIES.

There are a number of methods that can be used in the relocation of the actual boundaries of the natural oyster bars as technically described in this publication and delineated on the published charts of the Coast and Geodetic Survey and the leasing charts of the Shell Fish Commission.

The following brief descriptions of five of these more or less different methods assume a certain amount of experience and knowledge on the part of the engineer in the particular kind of surveying under consideration, and are only intended as reminders of ways and means that can be used.

There are two problems that are likely to present themselves to those interested in the boundaries of natural oyster bars: One, to determine whether the buoys marking the corners have been dragged or otherwise moved from their correct positions, and the other, to relocate or reestablish a buoy at the point from which it was removed. The different ways of solving these two problems partly depend upon the instruments possessed by the engineer and his assistants and partly on his training and experience.

[a] The mean magnetic variation for Calvert County was 5° 50′ west of north in 1909 and increasing at the rate of 3′ yearly.

[b] Geographic positions of these triangulation stations can be obtained by application to the Superintendent of the Coast and Geodetic Survey, Washington, D. C.

(1) *Triangulation.*—This method is the one that will give the greatest accuracy, but on account of its requiring special data and instruments, and being an operation rarely used by engineers not engaged in geodetic surveying, it is recommended only for cases in dispute that can not be settled satisfactorily by some other method. An explanation of this class of work would be too long for a report of this sort, and those not familiar with this method are referred to the publications on the subject by the Coast and Geodetic Survey.

(2) *Hydrographic.*—This method is the most simple and satisfactory one that can be adopted if the surveyor can obtain the use of the necessary instruments and assistants. It is the one best suited for the work of the engineers of the Commission in relocating corners of boundaries, as it gives results of the accuracy ordinarily required and is rapid in execution. Besides, it has the advantage of being available whenever three triangulation stations of suitable relative positions are visible from the offshore points needing relocation.

Most navigators and others familiar with the use of a sextant are well acquainted with the graphic three-point method of fixing a position on water, and only a brief description of the operation will be stated.

In the case where there is only one engineer having a single sextant, the three-point method can be used if the two angles determining the position of a buoy are first derived from the "Forward" bearings given in the tabular forms describing the boundaries of the oyster bars. For example, take "Hog Point" bar, which is the first one described in this publication, and assume that "Corner No. 1" is to be examined as to its position. The angle between the two landmarks "Hog Point" and "Beach," as determined from right to left from the forward bearings from this corner is 67° 35′ and the angle between "Beach" and "Ill 2" is 17° 16′. Having these two angles, the engineer proceeds to the buoy of doubtful location and measures the actual sextant angles between the landmarks for which the calculations were made. If the measured and calculated angles do not agree the buoy is not in its correct position and the boundary corner must be relocated. This is accomplished by moving the boat about until a point is reached where the angles do agree, and this point being the desired location the buoy can be placed in its correct position.

If the engineer can obtain the use of both a sextant and a three-arm protractor ("position finder"), the availability of the hydrographic method is increased, as the use of the protractor is essential in case of the washing away or destruction of one or more of the landmarks originally used in describing the boundaries. Under these circumstances, any three landmarks of suitable relative position that are visible from the point to be located can be utilized. For example, the engineer can proceed to the buoy of doubtful position and measure the two adjacent sextant angles between the three landmarks selected. These two angles are set off on the three-arm protractor and the actual position of the buoy plotted on the chart by shifting the protractor about until the edge of each of the three arms passes through the center of the symbols on the chart marking the position of the three landmarks selected. The center of the hub of the protractor will indicate on the chart the actual position of the buoy, and if the

point thus obtained does not coincide with the true position of the corner of the boundary as given on the chart the surveyor can proceed to locate the buoy correctly by reversing the operation. This is done by placing the center point of the hub of the protractor over the corner of the boundary in question and measuring on the chart the two adjacent protractor angles between the three selected landmarks. One of the angles thus obtained is set on the sextant and the boat moved about until the two landmarks are shown by the sextant to subtend the same angle obtained from the protractor. The second angle is then placed on the sextant and the same operation gone through, and so on, first using one angle on the sextant, then the other, until a point is reached where both observed sextant angles are practically identical with the protractor angles. The point thus located is the desired one and the buoy can be placed to mark the true position of the corner of the boundary in question.

If the engineer possesses two sextants and a protractor this problem is far easier of solution, as the two angles can be set off on separate sextants and the observer can quickly find the desired point where they agree with the protractor angles by using one sextant after the other without the need of resetting either.

If there are two observers two sextants, and a protractor, it can be seen that the best conditions for both rapid and accurate hydrographic locations of points are attained; in fact, this is the method by which the buoys at the corners of the boundaries were originally placed by the hydrographic engineer to the Commission.

(3) *Magnetic bearings from offshore.*—This method of fixing a position on water is a simple and well-known one in navigation. It is available to anyone having a boat compass, and will be of special use to the State Fishery Force in investigating cases where buoys are supposed to have been moved for illegal purposes.

In the case where a buoy is supposed to have been moved from its true position the observer takes compass bearings to the three landmarks given in the last column of the tables opposite the boundary corner in question. These bearings are then corrected for the local declination,[a] and if the results agree with the published bearings the buoy is correctly located.

In the case where the buoy is not in its correct position, or has disappeared altogether, the desired point can be determined by maneuvering the vessel until the corrected bearings agree with the ones in the tabular descriptions, when the buoy can be anchored in its proper location.

In the case where the landmarks for which the bearings are published have been destroyed or washed away, any landmarks whose positions are indicated on the charts can be used by getting their bearings directly from the chart by parallel rulers or a protractor and then applying them in the same manner as the ones published in the tables.

(4) *Magnetic bearings from shore.*—This method will be of special value to engineers having an ordinary surveyor's compass. The compass can be set over the point marking a "triangulation station" on shore, the name of which is given in the last column

[a] The mean magnetic variation for Calvert County is 5° 50′ west of north in 1909 and increasing at the rate of 3′ yearly.

opposite the "corner" in question. The instrument is then set at the corresponding "back" bearing (corrected for local magnetic declination) given in the fifth column of the tables opposite the "corner" in question, and the direction thus determined will give one range on which the desired point must be located. The compass can then be moved to a second triangulation station and another range located in a similar manner. The intersection of these two range-lines will give the desired point; but in general it should be checked by an additional range line determined from a third station.

(5) *Horizontal angles measured at landmarks.*—This process is a modification of the triangulation method, and will be useful to engineers who have a transit and desire considerable accuracy.

The instrument is placed over a "triangulation station," the name of which appears in the last column of the tabular description opposite the "corner" in question. The telescope is then pointed to the landmark indicated in the "Descriptions of landmarks" as having a direction of 0° 00′ 00″ from the triangulation station being occupied by the transit. The tabular description of the boundaries is next examined and the "back" bearing of the questionable boundary "corner" from the landmark being occupied is taken out. The angle calculated from this "back" bearing and the bearing given in parenthesis alongside the zero landmark in the "Descriptions of landmarks" is then set off on the transit, and a range line established on which the desired point must be located. A similar process is then carried on at a second station, and so on until the position of the buoy is satisfactorily fixed.

BOUNDARIES OF NATURAL OYSTER BARS.

HOG POINT.

(*Chesapeake Bay—Chart No. 16.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 42 00.00	76 29 42.57	N 65 49 W	S 65 50 E	3489	Hog Point (Holland 3).
			S 46 36 W	N 46 35 E	4709	Beach.
			S 29 20 W	N 29 19 E	6294	Ill 2.
2	38 42 00.00	76 30 38.41	N 50 04 W	S 50 04 E	2227	Hog Point (Holland 3).
			S 31 01 W	N 31 00 E	3776	Beach.
			S 16 19 W	N 16 19 E	5717	Ill 2.
3	38 42 39.59	76 30 41.04	N 86 42 W	S 86 43 E	1640	Hog Point (Holland 3).
			S 22 19 W	N 22 18 E	4941	Beach.
			S 12 42 W	N 12 41 E	6994	Ill 2.
4	38 42 30.67	76 29 56.13	N 82 02 W	S 82 03 E	2852	Hog Point (Holland 3).
			S 35 39 W	N 35 38 E	5255	Beach.
			S 22 41 W	N 22 40 E	7068	Ill 2.

UPPER STEPS.

(*Chesapeake Bay—Chart No. 16.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 40 31.72	76 31 22.80	N 6 56 W	S 6 56 E	4429	Hog Point (Holland 3)
			S 71 26 W	N 71 26 E	815	Beach.
			S 9 47 W	N 9 47 E	2547	Ill 2.
2	38 41 07.90	76 31 23.42	N 9 14 W	S 9 14 E	3228	Hog Point (Holland 3).
			S 27 03 W	N 27 03 E	1661	Beach.
			S 6 22 W	N 6 22 E	3753	Ill 2.
3	38 41 07.81	76 30 43.13	N 26 23 W	S 26 24 E	3561	Hog Point (Holland 3).
			S 50 58 W	N 50 58 E	2344	Beach.
			S 21 41 W	N 21 40 E	4011	Ill 2.
4	38 40 32.14	76 30 41.83	N 20 13 W	S 20 13 E	4681	Hog Point (Holland 3).
			S 81 37 W	N 81 36 E	1876	Beach.
			S 30 59 W	N 30 59 E	2945	Ill 2.

LOWER STEPS.

(*Chesapeake Bay—Chart No. 16.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 37 54.20	76 30 09.22	N 40 20 W	S 40 21 E	3676	Ill 2.
			S 47 33 W	N 47 33 E	1590	Plum 3.
			S 9 30 W	N 9 30 E	2967	Pier.
2	38 38 22.74	76 31 01.84	N 17 58 W	S 17 58 E	4299	Beach.
			N 28 13 W	S 28 14 E	2088	Ill 2.
			S 6 09 E	N 6 08 W	2047	Plum 3.
3	38 39 03.00	76 31 10.50	N 21 53 W	S 21 53 E	2944	Beach.
			N 57 35 W	S 57 35 E	898	Ill 2.
			S 7 31 E	N 7 31 W	3422	Plum 3.
4	38 39 03.40	76 30 40.60	N 34 46 W	S 34 47 E	3310	Beach.
			N 73 11 W	S 73 12 E	1619	Ill 2.
			S 5 53 W	N 5 53 E	3346	Plum 3.
5	38 38 00.00	76 29 21.95	N 54 19 W	S 54 20 E	4467	Ill 2.
			S 62 23 W	N 62 22 E	2735	Plum 3.
			S 29 09 W	N 29 08 E	3574	Pier.

PLUM POINT.

(Chesapeake Bay—Charts Nos. 16 and 17.)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 35 08.99	76 29 30.18	N 29 56 W	S 29 56 E	3052	Pier.
			S 36 34 W	N 36 33 E	2896	Pen.
			S 28 09 W	N 28 08 E	5177	Patch.
2	38 35 23.36	76 30 13.24	N 10 03 W	S 10 04 E	2194	Pier.
			S 14 27 W	N 14 27 E	5214	Patch.
			S 11 45 W	N 11 45 E	2871	Pen.
3	38 37 54.20	76 30 09.22	N 40 20 W	S 40 21 E	3676	Ill 2.
			S 47 33 W	N 47 33 E	1590	Plum 3.
			S 9 30 W	N 9 30 E	2967	Pier.
4	38 38 00.00	76 29 21.95	N 54 19 W	S 54 20 E	4467	Ill 2.
			S 62 23 W	N 62 22 E	2735	Plum 3.
			S 29 09 W	N 29 08 E	3574	Pier.
5	38 37 25.92	76 28 39.97	N 51 36 W	S 51 38 E	6048	Ill 2.
			S 88 05 W	N 88 03 E	3536	Plum 3.
			S 55 20 W	N 55 19 E	3467	Pier.
6	38 35 46.04	76 28 39.80	N 63 57 W	S 63 58 E	3178	Pier.
			S 40 33 W	N 40 32 E	4705	Pen.
			S 33 00 W	N 32 59 E	6932	Patch.

DADDIE DARE.

(Chesapeake Bay—Chart No. 17.)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 33 16.42	76 30 01.31	N 31 30 W	S 31 30 E	1724	Pen.
			S 64 35 W	N 64 34 E	1791	Patch.
			S 24 08 W	N 24 08 E	3575	Parker.
2	38 34 14.52	76 30 39.37	S 12 36 W	N 12 36 E	2795	Patch.
			S 12 22 E	N 12 22 W	501	Pen.
			N 3 56 E	S 3 56 W	4493	Pier.
3	38 34 54.39	76 30 39.16	S 8 36 W	N 8 35 E	4118	Patch.
			S 3 10 E	N 3 10 W	1836	Pen.
			N 5 38 E	S 5 38 W	3153	Pier.
4	38 34 33.11	76 29 58.02	N 11 31 W	S 11 32 E	3935	Pier.
			S 41 30 W	N 41 30 E	1491	Pen.
			S 26 57 W	N 26 56 E	3762	Patch.
5	38 33 40.94	76 29 34.95	N 68 05 W	S 68 06 E	1722	Pen.
			S 55 26 W	N 55 25 E	2812	Patch.
			S 27 51 W	N 27 50 E	4625	Parker.

GOVERNORS RUN.

(*Chesapeake Bay—Charts Nos. 17 and 18.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 30 13.36	76 29 52.52	N 30 13 W	S 30 13 E	3368	Parker.
			S 35 28 W	N 35 28 E	328	Run.
			S 18 47 E	N 18 46 W	3657	Poplar.
2	38 31 58.17	76 29 50.96	N 45 20 W	S 45 21 E	2660	Patch.
			S 70 15 W	N 70 14 E	1845	Parker.
			S 3 29 W	N 3 29 E	3808	Run.
3	38 31 58.03	76 29 13.54	N 56 58 W	S 56 59 E	3439	Patch.
			S 77 13 W	N 77 12 E	2796	Parker.
			S 17 51 W	N 17 51 E	3988	Run.
4	38 31 16.41	76 29 02.58	N 44 04 W	S 44 05 E	4563	Patch.
			N 75 25 W	S 75 27 E	3118	Parker.
			S 32 19 W	N 32 18 E	2831	Run.
5	38 31 01.16	76 29 38.60	N 30 20 W	S 30 20 E	4394	Patch.
			N 57 49 W	S 57 49 E	2439	Parker.
			S 16 34 W	N 16 34 E	1955	Run.
6	38 30 18.02	76 29 40.77	N 36 04 W	S 36 05 E	3407	Parker.
			S 49 47 W	N 49 47 E	656	Run.
			S 13 27 E	N 13 29 W	3722	Poplar.

EMANUEL.

(*Chesapeake Bay—Charts Nos. 17 and 18.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 28 19.22	76 28 25.90	N 34 45 W	S 34 46 E	4360	Run.
			N 70 56 W	S 70 56 E	1184	Poplar.
			S 32 20 E	N 32 20 W	2596	Flag Pond.
2	38 30 13.36	76 29 52.52	N 30 13 W	S 30 13 E	3368	Parker
			S 35 28 W	N 35 28 E	328	Run.
			S 18 47 E	N 18 46 W	3657	Poplar.
3	38 30 18.02	76 29 40.77	N 36 04 W	S 36 05 E	3407	Parker.
			S 49 47 W	N 49 47 E	656	Run.
			S 13 27 E	N 13 29 W	3722	Poplar.
4	38 30 35.16	76 29 01.32	N 54 30 W	S 54 31 E	3748	Parker.
			S 57 04 W	N 57 04 E	1843	Run.
			S 2 27 W	N 2 27 E	4202	Poplar.
5	38 28 53.66	76 28 01.74	N 52 14 W	S 52 15 E	3953	Run.
			S 66 15 W	N 66 14 E	1923	Poplar.
			S 12 34 E	N 12 34 W	3437	Flag Pond.

FLAG POND.

(*Chesapeake Bay—Chart No. 18.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 24 51.50	76 24 49.59	N 45 57 W	S 45 59 E	4058	Wilson 2.
			N 85 35 W	S 85 35 E	210	Point of Rocks.
			S 41 39 E	N 41 41 W	4564	Cove Point Light.
2	38 25 18.03	76 25 24.78	S 39 30 E	N 39 30 W	1138	Point of Rocks.
			N 56 55 E	S 56 58 W	10684	Travers 2.
			N 45 50 W	S 45 51 E	2766	Wilson 2.
3	38 25 33.97	76 25 40.16	S 38 39 E	N 38 38 W	1813	Point of Rocks.
			N 60 30 E	S 60 33 W	10755	Travers 2.
			N 48 37 W	S 48 37 E	2101	Wilson 2.
4	38 26 04.98	76 26 19.20	S 41 22 E	N 41 22 W	3280	Point of Rocks.
			N 67 45 E	S 67 49 W	11230	Travers 2.
			N 57 35 W	S 57 35 E	641	Wilson 2.
5	38 26 23.49	76 26 48.62	S 40 29 E	N 40 29 W	370	Wilson 2.
			N 72 01 E	S 72 05 W	11749	Travers 2.
			N 34 52 W	S 34 53 E	2082	Flag Pond.
6	38 26 53.57	76 26 51.50	N 58 04 W	S 58 05 E	1312	Flag Pond.
			S 13 41 E	N 13 41 W	1333	Wilson 2.
			S 36 25 E	N 36 24 W	5095	Point of Rocks.
7	38 27 01.36	76 26 35.34	N 74 22 W	S 74 23 E	1600	Flag Pond.
			S 4 08 W	N 4 08 E	1562	Wilson 2.
			S 30 45 E	N 30 44 W	5076	Point of Rocks.
8	38 26 32.14	76 25 46.03	N 63 34 W	S 63 35 E	3183	Flag Pond.
			S 68 03 W	N 68 02 E	1531	Wilson 2.
			S 20 52 E	N 20 53 W	3614	Point of Rocks.
9	38 26 06.70	76 25 54.97	N 48 57 W	S 48 58 E	3465	Flag Pond.
			N 76 27 W	S 76 27 E	1217	Wilson 2.
			S 31 11 E	N 31 11 W	2945	Point of Rocks.
10	38 24 54.58	76 24 44.12	N 48 24 W	S 48 25 E	4094	Wilson 2.
			S 76 07 W	N 76 07 E	365	Point of Rocks.
			S 39 25 E	N 39 24 W	4548	Cove Point Light.

SPOUT.

(*Upper Patuxent River—Chart No. 19.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 30 42.61	76 39 57.79	N 69 04 W	S 69 04 E	792	City.
			S 60 58 W	N 60 57 E	1391	Indian.
			S 7 32 E	N 7 32 W	348	Hallowing.
2	38 30 45.02	76 40 05.13	N 69 42 W	S 69 42 E	581	City.
			S 53 28 W	N 53 28 E	1269	Indian.
			S 29 23 E	N 29 23 W	489	Hallowing.
3	38 30 53.38	76 39 57.79	N 26 50 W	S 26 51 E	1594	Teague.
			S 83 48 W	N 83 48 E	744	City.
			S 3 51 E	N 3 51 W	710	Hallowing.
4	38 30 50.86	76 39 49.62	N 31 54 W	S 31 54 E	1772	Teague.
			N 89 43 W	S 89 44 E	956	City.
			S 15 20 W	N 15 20 E	646	Hallowing.

HOLLAND POINT (CALVERT COUNTY).

(*Upper Patuxent River—Chart No. 19.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 30 12.18	76 40 15.63	S 52 45 E	N 52 45 W	943	Dwarf.
			N 37 20 E	S 37 20 W	856	Hallowing.
			N 64 34 W	S 64 34 E	820	Indian.
2	38 30 29.62	76 40 20.02	N 81 39 E	S. 81 40 W	641	Hallowing.
			N 11 47 W	S 11 48 E	736	City.
			S 69 19 W	N 69 19 E	667	Indian.
3	38 30 45.02	76 40 05.13	N 69 42 W	S 69 42 E	581	City.
			S 53 28 W	N 53 28 E	1269	Indian.
			S 29 23 E	N 29 23 W	489	Hallowing.
4	38 30 15.20	76 39 56.94	N 2 17 E	S 2 17 W	580	Hallowing.
			N 78 33 W	S 78 33 E	1262	Indian.
			S 20 46 E	N 20 46 W	720	Dwarf.

BUZZARD ISLAND.

(Upper Patuxent River—Chart No. 19.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 28 55.15	76 39 26.67	N 18 46 E	S 18 46 W	1135	Buzz.
			S 81 44 W	N 81 44 E	933	Billiard.
			S 39 30 W	N 39 30 E	888	Trent.
	Thence along county boundary as delineated on Chart No. 19 to corner No. 2.					
2	38 29 34.74	76 39 54.78	N 15 53 E	S 15 53 W	720	Dwarf.
			S 76 27 W	N 76 27 E	561	Sothoron.
			S 6 50 W	N 6 50 E	1479	Billiard.
3	38 29 43.62	76 39 49.40	N 7 58 E	S 7 58 W	396	Dwarf.
			S 57 50 W	N 57 50 E	809	Sothoron.
			S 10 13 W	N 10 13 E	1792	Billiard.
4	38 29 02.08	76 39 12.63	S 45 34 W	N 45 33 E	1312	Trent.
			S 58 59 E	N 58 58 W	643	Morsel.
			N 0 27 W	S 0 27 E	844	Buzz.

MACKS HOLLOW.

(Upper Patuxent River—Chart No. 19.)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 28 36.57	76 39 11.00	N 43 51 E	S 43 51 W	733	Morsel.
			S 86 34 W	N 86 34 E	982	Trent.
			S 33 48 W	N 33 47 E	1088	Collins.
2	38 28 47.06	76 39 18.24	S 62 23 W	N 62 23 E	890	Trent.
			S 18 11 W	N 18 11 E	1324	Collins.
			N 75 58 E	S 75 58 W	722	Morsel.
3	38 28 49.60	76 39 12.42	S 62 09 W	N 62 09 E	1066	Trent.
			S 22 54 W	N 22 54 E	1459	Collins.
			N 80 42 E	S 80 42 W	553	Morsel.
4	38 28 39.34	76 39 05.24	N 39 13 E	S 39 13 W	562	Morsel.
			S 82 21 W	N 82 21 E	1143	Trent.
			S 37 08 W	N 37 07 E	1255	Collins.

BROAD NECK (CALVERT COUNTY).

(*Upper Patuxent River—Chart No. 19.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 27 41.18	76 39 00.00	N 26 03 E	S 26 03 W	848	Sheridan.
			N 42 57 W	S 42 57 E	1317	Collins.
			S 54 49 W	N 54 49 E	952	Cremona.
	Thence along county boundary as delineated on Chart No. 19 to corner No. 2.					
2	38 28 00.34	76 39 09.64	N 63 40 W	S 63 41 E	715	Collins.
			S 23 40 W	N 23 40 E	1304	Cremona.
			N 79 34 E	S 79 34 W	639	Sheridan.
3	38 28 03.12	76 38 52.86	N 78 22 W	S 78 23 E	1109	Collins.
			S 36 56 W	N 36 56 E	1611	Cremona.
			N 83 10 E	S 83 10 W	184	Sheridan.
4	38 27 45.22	76 38 51.22	N 12 36 E	S 12 36 W	640	Sheridan.
			N 53 47 W	S 53 48 E	1400	Collins.
			S 55 56 W	N 55 56 E	1222	Cremona.

THOMAS (CALVERT COUNTY).

(*Upper Patuxent River—Chart No. 19.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 27 12.58	76 38 14.84	N 61 07 E	S 61 07 W	1561	Kitt.
			N 25 33 W	S 25 33 E	1914	Sheridan.
			S 49 29 W	N 49 29 E	1018	Oppkit.
	Thence along county boundary as delineated on Chart No. 19 to corner No. 2.					
2	38 27 41.18	76 39 00.00	N 26 03 E	S 26 03 W	848	Sheridan.
			N 42 57 W	S 42 57 E	1317	Collins.
			S 54 49 W	N 54 49 E	952	Cremona.
3	38 27 45.22	76 38 51.22	N 12 36 E	S 12 36 W	640	Sheridan.
			N 53 47 W	S 53 48 E	1400	Collins.
			S 55 56 W	N 55 56 E	1222	Cremona.

KITTS MARSH.

(*Upper Patuxent River—Chart No. 19.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 26 48.30	76 37 38.66	N 88 44 E	S 88 44 W	1652	Battle.
			N 14 31 E	S 14 31 W	1625	Kitt.
			N 84 48 W	S 84 49 E	1740	Oppkit.
2	38 27 33.80	76 37 50.40	N 55 33 W	S 55 33 E	1786	Sheridan.
			S 45 55 W	N 45 55 E	1979	Oppkit.
			N 86 56 E	S 86 57 W	720	Kitt.
3	38 27 28.23	76 37 03.40	N 66 47 W	S 66 48 E	574	Kitt.
			S 65 59 W	N 65 58 E	2921	Oppkit.
			S 28 42 E	N 28 42 W	1493	Battle.
4	38 27 06.60	76 37 07.58	N 23 34 W	S 23 34 E	1042	Kitt.
			S 79 49 W	N 79 48 E	2598	Oppkit.
			S 54 58 E	N 54 58 W	1010	Battle.

PRISON POINT.

(*Upper Patuxent River—Chart No. 19.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 26 06.26	76 36 55.93	S 89 58 E	N 89 57 W	2229	Photo.
			N 19 38 E	S 19 39 W	1544	Battle.
			S 77 55 W	N 77 55 E	1749	Fight.
2	38 26 48.30	76 37 38.66	N 88 44 E	S 88 44 W	1652	Battle.
			N 14 31 E	S 14 31 W	1625	Kitt.
			N 84 48 W	S 84 49 E	1740	Oppkit.
3	38 27 06.60	76 37 07.58	N 23 34 W	S 23 34 E	1042	Kitt.
			S 79 49 W	N 79 48 E	2598	Oppkit.
			S 54 58 E	N 54 58 W	1010	Battle.
4	38 26 25.18	76 36 32.36	S 68 15 E	N 68 15 W	1727	Photo.
			N 7 24 W	S 7 24 E	823	Battle.
			S 66 44 W	N 66 43 E	2542	Fight.

JACKS MARSH.

(*Middle Patuxent River—Chart No. 19.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 25 46.60	76 36 35.83	N 68 42 E	S 68 43 W	1820	Photo.
			N 0 23 W	S 0 23 E	2116	Battle.
			N 82 27 W	S 82 26 E	2263	Fight.
2	38 26 06.26	76 36 55.93	S 89 58 E	N 89 57 W	2229	Photo.
			N 19 38 E	S 19 39 W	1544	Battle.
			S 77 55 W	N 77 55 E	1749	Fight.
3	38 26 25.18	76 36 32.36	S 68 15 E	N 68 15 W	1727	Photo.
			N 7 24 W	S 7 24 E	823	Battle.
			S 66 44 W	N 66 43 E	2542	Fight.
4	38 26 11.08	76 36 20.38	S 82 43 E	N 82 43 W	1297	Photo.
			N 18 10 W	S 18 10 E	1359	Battle.
			S 78 44 W	N 78 43 E	2704	Fight.

JACKS BAY.

(*Middle Patuxent River—Chart No. 19.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 24 44.96	76 34 54.62	N 23 28 E	S 23 28 W	1603	Slim.
			N 19 50 W	S 19 51 E	2912	Photo.
			N 87 57 W	S 87 58 E	2465	Forr.
2	38 25 33.46	76 36 05.82	S 20 22 W	N 20 22 E	1650	Forr.
			S 86 17 E	N 86 16 W	2533	Slim.
			N 39 11 E	S 39 11 W	1425	Photo.
3	38 25 46.40	76 35 49.42	S 26 59 W	N 26 58 E	2225	Forr.
			S 73 59 E	N 73 58 W	2177	Slim.
			N 34 50 E	S 34 51 W	814	Photo.
4	38 25 04.79	76 34 41.18	N 19 22 E	S 19 22 W	851	Slim.
			N 33 00 W	S 33 01 E	2469	Photo.
			S 78 23 W	N 78 22 E	2879	Forr.

PARKERS WHARF.

(*Middle Patuxent River—Chart No. 19.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 24 21.25	76 34 00.40	N 19 24 W	S 19 25 E	2407	Slim.
			S 70 07 W	N 70 06 E	2108	Cole.
			S 33 17 E	N 33 17 W	2561	Hutchins.
2	38 24 44.96	76 34 54.62	N 23 28 E	S 23 28 W	1603	Slim.
			N 19 50 W	S 19 51 E	2912	Photo.
			N 87 57 W	S 87 58 E	2465	Forr.
3	38 25 04.79	76 34 41.18	N 19 22 E	S 19 22 W	851	Slim.
			N 33 00 W	S 33 01 E	2469	Photo.
			S 78 23 W	N 78 22 E	2879	Forr.
4	38 24 31.32	76 33 54.75	N 26 11 W	S 26 12 E	2152	Slim.
			S 63 35 W	N 63 35 E	2381	Cole.
			S 26 51 E	N 26 51 W	2781	Hutchins.

BROOME ISLAND.

(*Middle Patuxent River—Chart No. 19.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 24 06.73	76 33 44.00	N 24 06 W	S 24 07 E	3024	Slim.
			S 84 38 W	N 84 37 E	2428	Cole.
			S 30 26 E	N 30 26 W	1916	Hutchins.
2	38 24 21.25	76 34 00.40	N 19 24 W	S 19 25 E	2407	Slim.
			S 70 07 W	N 70 06 E	2108	Cole.
			S 33 17 E	N 33 17 W	2561	Hutchins.
3	38 24 31.32	76 33 54.75	N 26 11 W	S 26 12 E	2152	Slim.
			S 63 35 W	N 63 35 E	2381	Cole.
			S 26 51 E	N 26 51 W	2781	Hutchins.
4	38 24 43.90	76 33 17.78	N 52 01 W	S 52 02 E	2449	Slim.
			S 64 34 W	N 64 33 E	3447	Cole.
			S 5 24 E	N 5 24 W	2918	Hutchins.
5	38 24 15.43	76 33 22.44	N 36 13 W	S 36 14 E	3058	Slim.
			S 80 06 W	N 80 05 E	3035	Cole.
			S 11 35 E	N 11 34 W	1985	Hutchins.

ISLAND CREEK.

(*Middle Patuxent River—Chart No. 19.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 24 00.18	76 32 37.18	N 36 43 E	S 36 43 W	1048	Island.
			N 11 45 W	S 11 46 E	1407	Sweep.
			S 29 18 W	N 29 18 E	1640	Hutchins.
2	38 24 21.82	76 32 54.59	S 8 58 W	N 8 58 E	2192	Hutchins.
			N 84 13 E	S 84 13 W	1089	Island.
			N 15 07 E	S 15 07 W	671	Sweep.
3	38 24 24.58	76 32 49.20	S 12 07 W	N 12 07 E	2305	Hutchins.
			N 88 57 E	S 88 58 W	946	Island.
			N 3 14 E	S 3 14 W	557	Sweep.
4	38 24 03.25	76 32 31.28	N 32 32 E	S 32 32 W	874	Island.
			N 19 12 W	S 19 12 E	1349	Sweep.
			S 32 01 W	N 32 01 E	1810	Hutchins.

PETERSON (CALVERT COUNTY).

(*Middle Patuxent River—Chart No. 19.*)

Corner of bar	Latitude	Longitude	True bearing: Forward	True bearing: Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 22 56.90	76 30 33.78	N 88 53 E	S 88 54 W	1920	Lend.
			N 55 05 E	S 55 05 W	1587	Sollers.
			N 13 16 E	S 13 16 W	1313.	Wheat.
2	38 23 12.22	76 31 11.86	S 76 36 W	N 76 35 E	1669	Bars.
			S 0 30 W	N 0 30 E	1989	Stock.
			N 65 25 E	S 65 24 W	1126	Wheat.
Thence along county boundary as delineated on Chart No. 19 to corner No. 3.						
3	38 23 44.44	76 31 50.08	N 30 01 E	S 30 01 W	1818	Peak.
			N 24 27 W	S 24 27 E	1506	Island.
			S 22 47 W	N 22 47 E	1601	Bars.
4	38 24 08.86	76 31 20.50	S 41 01 E	N 41 01 W	1909	Wheat.
			N 9 26 E	S 9 26 W	759	Peak.
			N 68 46 W	S 68 46 E	1511	Island.
5	38 24 00.00	76 31 04.40	N 16 06 W	S 16 06 E	1093	Peak.
			S 42 29 W	N 42 29 E	2713	Bars.
			S 35 52 E	N 35 52 W	1410	Wheat.

MEARS (CALVERT COUNTY).

(*Lower Patuxent River—Chart No. 20.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 22 10.64	76 29 40.84	S 43 10 W	N 43 10 E	1491	Briscoe.
			S 58 24 E	N 58 24 W	1042	Stump.
			N 10 28 E	S 10 28 W	1251	Lend.
2	38 22 13.42	76 30 03.46	N 36 08 E	S 36 09 W	1403	Lend.
			S 89 59 W	N 89 59 E	1833	Stock.
			S 19 34 W	N 19 34 E	1251	Briscoe.
Thence along county boundary as delineated on Chart No 20 to corner No. 3.						
3	38 22 48.14	76 30 44.62	N 88 53 E	S 88 54 W	1920	Lend.
			N 55 05 E	S 55 05 W	1587	Sollers.
			N 13 16 E	S 13 16 W	1313	Wheat.
4	38 22 56.90	76 30 33.78	S 78 29 E	N 78 29 W	1666	Lend.
			N 58 50 E	S 58 50 W	1184	Sollers.
			N 0 47 E	S 0 47 W	985	Wheat.
5	38 22 24.02	76 29 34.47	N 4 17 E	S 4 17 W	779	Lend.
			S 37 42 W	N 37 42 E	1943	Briscoe.
			S 35 47 E	N 35 47 W	1229	Stump.
6	38 22 11.06	76 29 32.03	N 0 19 W	S 0 19 E	1213	Lend.
			S 48 42 W	N 48 42 E	1668	Briscoe.
			S 49 25 E	N 49 25 W	862	Stump.

HELLEN.

(*Lower Patuxent River—Chart No. 20.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 21 13.82	76 29 19.73	S 88 22 E	N 88 21 W	1001	Hellen.
			N 13 27 E	S 13 27 W	1409	Stump.
			S 50 43 W	N 50 43 E	1172	Nat.
	Thence along county boundary as delineated on Chart No. 20 to corner No. 2.					
2	38 21 28.78	76 29 27.51	S 29 21 W	N 29 20 E	1430	Nat.
			S 66 10 E	N 66 10 W	1320	Hellen.
			N 31 41 E	S 31 42 W	1017	Stump.
3	38 21 43.02	76 29 17.82	S 29 02 W	N 29 01 E	1975	Nat.
			S 43 09 E	N 43 09 W	1389	Hellen.
			N 35 43 E	S 35 43 W	475	Stump.
4	38 22 10.64	76 29 40.84	S 43 10 W	N 43 10 E	1491	Briscoe.
			S 58 24 E	N 58 24 W	1042	Stump.
			N 10 28 E	S 10 28 W	1251	Lend.
5	38 22 11.06	76 29 32.03	N 0 19 W	S 0 19 E	1213	Lend.
			S 48 42 W	N 48 42 E	1668	Briscoe.
			S 49 25 E	N 49 25 W	862	Stump.
6	38 22 12.02	76 29 22.46	N 12 27 W	S 12 27 E	1208	Lend.
			S 53 04 W	N 53 03 E	1886	Briscoe.
			S 34 01 E	N 34 01 W	715	Stump.
7	38 21 35.98	76 28 55.14	N 27 35 W	S 27 35 E	702	Stump.
			S 46 20 W	N 46 19 E	2158	Nat.
			S 24 08 E	N 24 08 W	850	Hellen.
8	38 21 33.41	76 29 04.07	N 7 05 W	S 7 05 E	714	Stump.
			S 43 19 W	N 43 19 E	1929	Nat.
			S 40 19 E	N 40 18 W	903	Hellen.
9	38 21 16.78	76 28 52.37	N 17 26 W	S 17 26 E	1331	Stump.
			S 62 44 W	N 62 43 E	1838	Nat.
			S 64 53 E	N 64 53 W	303	Hellen.

HUNGERFORD HOLLOW.

(*Lower Patuxent River—Chart No. 20.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 20 03.38	76 28 46.62	N 38 28 E	S 38 29 W	1247	Ton.
			N 87 57 W	S 87 57 E	1223	Mill.
			S 36 39 W	N 36 39 E	514	Bur.
2	38 20 05.82	76 28 58.74	N 50 51 E	S 50 51 W	1415	Ton.
			S 87 33 W	N 87 33 E	901	Mill.
			S 1 47 E	N 1 47 W	494	Bur.
3	38 20 33.14	76 28 48.62	S 50 37 W	N 50 37 E	1512	Mill.
			S 10 09 W	N 10 09 E	1438	Bur.
			S 88 05 E	N 88 06 W	829	Ton.
4	38 20 30.18	76 28 36.35	S 60 06 W	N 60 05 E	1725	Mill.
			S 23 46 W	N 23 46 E	1437	Bur.
			N 81 50 E	S 81 50 W	507	Ton.

BARN GATES.

(*Lower Patuxent River—Chart No. 20.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 19 31.80	76 28 19.14	N 21 38 E	S 21 38 W	775	New.
			N 57 48 W	S 57 48 E	1225	Bur.
			S 37 50 W	N 37 50 E	547	Town.
	Thence along county boundary as delineated on Chart No. 20 to corner No. 2.					
2	38 19 32.82	76 29 15.02	S 34 21 W	N 34 21 E	518	Cable.
			S 67 53 E	N 67 53 W	1240	Town.
			N 35 55 E	S 35 55 W	763	Bur.
	Thence along county boundary as delineated on Chart No. 20 to corner No. 3.					
3	38 19 52.74	76 29 15.14	N 49 06 W	S 49 06 E	614	Mill.
			S 14 48 W	N 14 48 E	1137	Cable.
			S 83 16 E	N 83 16 W	454	Bur.
4	38 19 49.38	76 29 08.36	N 51 20 W	S 51 21 E	826	Mill.
			S 25 27 W	N 25 27 E	1093	Cable.
			N 78 19 E	S 78 19 W	277	Bur.
5	38 19 38.36	76 29 05.73	N 24 59 E	S 24 59 W	476	Bur.
			N 38 51 W	S 38 51 E	1140	Mill.
			S 41 16 W	N 41 15 E	818	Cable.
6	38 19 50.62	76 28 52.41	N 83 12 W	S 83 12 E	154	Bur.
			S 27 12 E	N 27 12 W	1198	Town.
			N 85 48 E	S 85 48 W	1173	New.
7	38 19 49.33	76 28 27.26	N 85 42 W	S 85 42 E	823	Bur.
			S 6 42 W	N 6 41 E	1030	Town.
			N 75 31 E	S 75 32 W	516	New.
8	38 19 44.56	76 28 13.36	N 24 30 E	S 24 30 W	319	New.
			N 79 24 W	S 79 25 E	1211	Bur.
			S 29 34 W	N 29 34 E	992	Town.
9	38 19 36.50	76 28 08.41	S 62 03 W	N 62 02 E	938	M. E. Church.
			S 88 20 E	N 88 20 W	743	Catholic Church Cross.
			N 0 05 E	S 0 05 W	562	New.

BACK OF ISLAND.

(Lower Patuxent River—Chart No. 20.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 18 37.46	76 27 22.28	N 2 47 E	S 2 47 W	733	Sand.
			N 14 20 W	S 14 20 E	1601	M. E. Church.
			S 57 21 W	N 57 21 E	1309	Ben.
2	38 19 14.98	76 27 45.78	S 51 03 E	N 51 03 W	849	Sand.
			N 38 36 E	S 38 36 W	365	M. E. Church.
			N 11 22 E	S 11 22 W	718	Catholic Church Cross.
3	38 19 31.80	76 28 19.14	N 21 38 E	S 21 38 W	775	New.
			N 57 48 W	S 57 48 E	1225	Bur.
			S 37 50 W	N 37 50 E	547	Town.
4	38 19 36.50	76 28 08.41	S 62 03 W	N 62 02 E	938	M. E. Church.
			S 88 20 E	N 88 20 W	743	Catholic Church Cross.
			N 0 05 E	S 0 05 W	562	New.
5	38 19 17.36	76 27 40.64	S 40 27 E	N 40 27 W	807	Sand.
			N 23 59 E	S 23 59 W	224	M. E. Church.
			N 87 42 W	S 87 42 E	1359	Town.
6	38 18 43.78	76 27 17.52	N 9 56 W	S 9 56 E	526	Sand.
			N 58 57 W	S 58 58 E	2302	Town.
			S 53 12 W	N 53 11 E	1534	Ben.

SHELL PILE.

(Lower Patuxent River—Chart No. 20.)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 19 14.10	76 27 16.86	N 44 23 E	S 44 24 W	479	Fishstack.
			N 59 44 W	S 59 44 E	626	M. E. Church.
			S 3 19 W	N 3 19 E	156	K. of P. Flagstaff.
2	38 19 15.60	76 27 18.42	N 52 15 E	S 52 15 W	475	Fishstack.
			N 62 03 W	S 62 03 E	564	M. E. Church.
			S 8 56 E	N 8 56 W	209	K. of P. Flagstaff.
3	38 19 21.22	76 27 09.38	N 53 11 E	S 53 11 W	169	Fishstack.
			N 84 11 W	S 84 12 E	743	M. E. Church.
			S 27 40 W	N 27 40 E	447	K. of P. Flagstaff.
4	38 19 19.90	76 27 07.84	N 33 01 E	S 33 01 W	175	Fishstack.
			N 81 16 W	S 81 16 E	789	M. E. Church.
			S 35 12 W	N 35 12 E	431	K. of P. Flagstaff.

CHERRY TREE.

(*Lower Patuxent River—Chart No. 20.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 19 01.06	76 27 05.07	N 1 34 E	S 1 34 W	782	Fishstack.
			N 48 40 W	S 48 40 E	430	K. of P. Flagstaff.
			S 81 22 W	N 81 21 E	426	Sand.
2	38 19 09.49	76 27 01.33	N 8 54 W	S 8 54 E.	503	Fishstack.
			N 89 55 W	S 89 55 E	422	K. of P. Flagstaff.
			S 56 14 W	N 56 13 E	627	Sand.
3	38 19 16.62	76 27 07.84	N 20 18 E	S 20 18 W	273	Fishstack.
			N 73 33 W	S 73 34 E	814	M. E. Church.
			S 45 53 W	N 45 53 E	347	K. of P. Flagstaff.
4	38 19 19.66	76 27 06.41	N 20 17 E	S 20 17 W	165	Fishstack.
			N 81 08 W	S 81 08 E	828	M. E. Church.
			S 39 50 W	N 39 50 E	447	K. of P. Flagstaff.
5	38 19 07.48	76 26 50.48	N 32 56 W	S 32 56 E	674	Fishstack.
			N 84 36 W	S 84 36 E	713	K. of P. Flagstaff.
			S 70 53 W	N 70 52 E	856	Sand.
6	38 19 03.43	76 26 59.69	N 9 49 W	S 9 49 E	712	Fishstack.
			N 66 21 W	S 66 21 E	507	K. of P. Flagstaff.
			S 75 42 W	N 75 41 E	583	Sand.

SWASH.

(*Lower Patuxent River—Chart No. 20.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 19 14.46	76 26 42.80	N 22 31 E	S 22 31 W	492	Bon.
			N 59 57 W	S 59 57 E	658	Fishstack.
			S 63 01 W	N 63 01 E	1134	Sand.
2	38 19 18.38	76 26 46.80	N 42 30 E	S 42 30 W	435	Bon.
			N 66 34 W	S 66 35 E	505	Fishstack.
			S 54 27 W	N 54 27 E	1114	Sand.
3	38 19 16.23	76 26 50.63	N 45 14 E	S 45 14 W	558	Bon.
			N 53 55 W	S 53 55 E	458	Fishstack.
			S 54 27 W	N 54 26 E	990	Sand.
4	38 19 19.66	76 26 53.64	N 59 43 E	S 59 43 W	551	Bon.
			N 61 18 W	S 61 18 E	322	Fishstack.
			S 61 14 W	N 61 14 E	714	K. of P. Flagstaff.
5	38 19 20.62	76 26 46.83	N 50 13 E	S 50 13 W	383	Bon.
			N 75 14 W	S 75 14 E	479	Fishstack.
			S 65 01 W	N 65 01 E	890	K. of P. Flagstaff.
6	38 19 24.62	76 26 40.42	N 48 24 E	S 48 24 W	166	Bon.
			S 88 50 W	N 88 50 E	633	Fishstack.
			S 62 24 W	N 62 24 E	1102	K. of P. Flagstaff.
7	38 19 15.46	76 26 35.24	N 77 13 E	S 77 13 W	1500	Bareda House Cupola.
			N 1 47 W	S 1 47 E	420	Bon.
			N 69 00 W	S 69 00 E	826	Fishstack.

SANDY POINT LUMPS.

(*Lower Patuxent River—Chart No. 20.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 18 32.95	76 26 56.30	N 65 07 E	S 65 08 W	2935	Drum Point Light.
			N 6 58 W	S 6 58 E	1742	Fishstack.
			N 36 32 W	S 36 32 E	1100	Sand.
2	38 19 01.06	76 27 05.07	N 1 34 E	S 1 34 W	782	Fishstack.
			N 48 40 W	S 48 40 E	430	K. of P. Flagstaff.
			S 81 22 W	N 81 21 E	426	Sand.
3	38 19 03.43	76 26 59.69	N 9 49 W	S 9 49 E	712	Fishstack.
			N 66 21 W	S 66 21 E	507	K. of P. Flagstaff.
			S 75 42 W	N 75 41 E	583	Sand.
4	38 18 38.82	76 26 36.60	N 64 08 E	S 64 09 W	2377	Drum Point Light.
			N 25 38 W	S 25 38 E	1698	Fishstack.
			N 59 48 W	S 59 48 E	1363	Sand.

SOUTHEAST MIDDLE-GROUND.

(*Lower Patuxent River—Chart No. 20.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 18 36.88	76 26 17.61	N 56 01 E	S 56 01 W	1972	Drum Point Light.
			N 15 38 W	S 15 38 E	1787	Bon.
			N 65 56 W	S 65 57 E	1843	Sand.
2	38 18 54.83	76 26 44.86	N 78 06 E	S 78 07 W	2410	Drum Point Light.
			N 12 16 E	S 12 16 W	1141	Bon.
			N 81 20 W	S 81 21 E	970	Sand.
3	38 19 03.18	76 26 40.68	N 84 31 E	S 84 32 W	2258	Drum Point Light.
			N 8 58 E	S 8 58 W	845	Bon.
			S 83 53 W	N 83 53 E	1076	Sand.
4	38 18 59.63	76 26 25.20	N 79 39 E	S 79 39 W	1867	Drum Point Light.
			N 16 21 W	S 16 21 E	993	Bon.
			S 89 23 W	N 89 23 E	1481	Sand.
5	38 19 07.06	76 26 07.32	N 86 27 E	S 86 27 W	1365	Drum Point Light.
			N 49 33 E	S 49 33 W	948	Bareda House Cupola.
			N 47 03 W	S 47 03 E	1031	Bon.
6	38 19 15.48	76 26 06.76	S 81 35 E	N 81 34 W	1362	Drum Point Light.
			N 64 53 E	S 64 53 W	781	Bareda House Cupola.
			N 61 27 W	S 61 27 E	876	Bon.
7	38 19 14.40	76 26 14.82	S 84 03 E	N 84 02 W	1569	Drum Point Light.
			N 67 52 E	S 67 52 W	994	Bareda House Cupola.
			N 50 40 W	S 50 40 E	718	Bon.
8	38 19 14.76	76 26 22.18	S 84 19 E	N 84 20 W	1765	Drum Point Light.
			N 71 57 E	S 71 57 W	1175	Bareda House Cupola.
			N 39 05 W	S 39 06 E	571	Bon.
9	38 19 23.38	76 26 16.02	S 73 42 E	N 73 42 W	1659	Drum Point Light.
			N 86 06 E	S 86 06 W	954	Bareda House Cupola.
			N 73 46 W	S 73 46 E	546	Bon.
10	38 19 23.77	76 25 52.60	S 63 44 E	N 63 44 W	1083	Drum Point Light.
			N 81 05 E	S 81 05 W	335	Bareda House Cupola.
			N 83 05 W	S 83 06 E	1154	Bon.
11	38 18 40.96	76 25 49.21	S 57 34 E	N 57 33 W	1547	Carroll 2.
			N 42 23 E	S 42 23 W	1306	Drum Point Light.
			N 9 08 E	S 9 08 W	1516	Bareda House Cupola.

LIGHT HOUSE LUMP.

(*Lower Patuxent River—Chart No. 20.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 18 50.42	76 25 42.82	S 44 41 E	N 44 40 W	1616	Carroll 2.
			N 47 44 E	S 47 45 W	960	Drum Point Light.
			N 3 27 E	S 3 27 W	1179	Bareda House Cupola
2	38 19 00.00	76 25 36.78	S 33 32 E	N 33 32 W	1766	Carroll 2.
			N 59 36 E	S 59 36 W	638	Drum Point Light.
			N 5 59 W	S 5 59 E	858	Bareda House Cupola.
3	38 19 00.00	76 25 21.67	S 21 19 E	N 21 19 W	1580	Carroll 2.
			N 24 45 E	S 24 45 W	355	Drum Point Light.
			N 29 54 W	S 29 55 E	984	Bareda House Cupola.
4	38 18 50.60	76 25 15.98	S 20 07 E	N 20 07 W	1230	Carroll 2.
			N 0 13 W	S 0 13 E	640	Drum Point Light.
			N 28 45 W	S 28 45 E	1335	Bareda House Cupola.

OLD LUMP.

(*Entrance Patuxent River—Chart No. 20.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 18 58.36	76 25 10.00	S 10 34 E	N 10 34 W	1441	Carroll 2.
			S 67 54 E	N 67 53 W	2014	Hog 2.
			N 23 46 W	S 23 46 E	411	Drum Point Light.
2	38 19 09.57	76 25 16.07	S 60 45 E	N 60 44 W	2324	Hog 2.
			S 13 21 E	N 13 20 W	1844	Carroll 2.
			S 83 58 W	N 83 57 E	3335	Sand.
3	38 19 10.57	76 25 02.48	S 84 40 W	N 84 39 E	363	Drum Point Light.
			S 2 01 E	N 2 01 W	1830	Carroll 2.
			S 54 56 E	N 54 56 W	2036	Hog 2.

CARROLL MUDS (CALVERT COUNTY).

(*Entrance Patuxent River—Chart No. 20.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 18 45.42	76 25 04.36	S 6 40 E	N 6 40 W	988	Carroll 2.
			S 79 23 E	N 79 23 W	1746	Hog 2.
			N 20 54 W	S 20 55 E	874	Drum Point Light.
2	38 18 52.28	76 25 04.30	S 5 19 E	N 5 19 W	1220	Carroll 2.
			S 72 08 E	N 72 08 W	1802	Hog 2.
			N 27 23 W	S 27 23 E	656	Drum Point Light.
3	38 19 07.56	76 24 21.07	N 87 21 W	S 87 21 E	1462	Drum Point Light.
			S 30 57 W	N 30 57 E	2013	Carroll 2.
			S 27 56 E	N 27 56 W	1210	Hog 2.
4	38 19 03.80	76 24 17.62	N 82 51 W	S 82 52 E	1565	Drum Point Light.
			S 35 10 W	N 35 09 E	1958	Carroll 2.
			S 26 46 E	N 26 46 W	1054	Hog 2.

Thence along county boundary as delineated on Chart No. 20 to corner No. 1.

SIMMONS.

(*Entrance Patuxent River—Chart No. 20.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 19 29.40	76 24 22.40	S 64 52 W	N 64 52 E	1575	Drum Point Light.
			S 22 06 W	N 22 06 E	2659	Carroll 2.
			S 18 27 E	N 18 26 W	1903	Hog 2.
2	38 19 36.67	76 24 29.70	S 53 26 W	N 53 25 E	1534	Drum Point Light.
			S 16 35 W	N 16 34 E	2826	Carroll 2.
			S 21 13 E	N 21 13 W	2199	Hog 2.
3	38 19 43.80	76 24 15.42	S 54 19 W	N 54 19 E	1984	Drum Point Light.
			S 21 54 W	N 21 54 E	3179	Carroll 2.
			S 10 18 E	N 10 18 W	2327	Hog 2.
4	38 19 36.56	76 24 08.78	S 63 01 W	N 63 00 E	2006	Drum Point Light.
			S 26 44 W	N 26 43 E	3036	Carroll 2.
			S 6 41 E	N 6 40 W	2060	Hog 2.

CHINESE MUDS (CALVERT COUNTY).

(*Entrance Patuxent River—Chart No. 20.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 19 17.14	76 23 47.02	S 83 51 W	N 83 50 E	2380	Drum Point Light.
			S 13 40 W	N 13 40 E	1432	Hog 2.
			S 45 24 E	N 45 23 W	3820	Cedar Point Light.
2	38 19 47.84	76 23 39.57	S 63 17 W	N 63 16 E	2863	Drum Point Light.
			S 12 28 W	N 12 27 E	2485	Hog 2.
			S 34 15 E	N 34 14 W	4479	Cedar Point Light.
3	38 20 39.76	76 23 17.16	N 1 58 E	S 1 58 W	2035	Pat.
			S 46 06 W	N 46 04 E	4384	Drum Point Light.
			S 19 25 E	N 19 25 W	5792	Cedar Point Light.
4	38 21 01.14	76 22 41.20	N 33 59 W	S 34 00 E	1584	Pat.
			S 47 34 W	N 47 32 E	5574	Drum Point Light.
			S 8 55 E	N 8 55 W	6259	Cedar Point Light.
5	38 20 46.06	76 22 13.08	N 41 55 W	S 41 56 E	2449	Pat.
			S 56 13 W	N 56 11 E	5849	Drum Point Light.
			S 2 15 E	N 2 15 W	5679	Cedar Point Light.
6	38 19 37.58	76 21 34.27	N 32 48 W	S 32 49 E	4915	Pat.
			S 80 55 W	N 80 52 E	5968	Drum Point Light.
			S 13 30 W	N 13 30 E	3461	Cedar Point Light.

Thence along county boundary as delineated on Chart No. 20 to corner No. 1.

PARKER MOORE.

(Entrance Patuxent River—Chart No. 20.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 19 47.84	76 23 39.57	S 63 17 W	N 63 16 E	2863	Drum Point Light.
			S 12 28 W	N 12 27 E	2485	Hog 2.
			S 34 15 E	N 34 14 W	4479	Cedar Point Light.
2	38 20 51.48	76 23 50.23	S 33 34 W	N 33 33 E	4124	Drum Point Light.
			S 3 10 W	N 3 10 E	4579	Hog 2.
			S 25 35 E	N 25 34 W	6494	Cedar Point Light.
3	38 20 59.42	76 23 38.88	N 25 14 E	S 25 14 W	1516	Pat.
			S 34 53 W	N 34 53 E	4515	Drum Point Light.
			S 6 32 W	N 6 32 E	4872	Hog 2.
4	38 20 39.76	76 23 17.16	N 1 58 E	S 1 58 W	2035	Pat.
			S 46 06 W	N 46 04 E	4384	Drum Point Light.
			S 19 25 E	N 19 25 W	5792	Cedar Point Light.

UNDER THE CLIFFS.

(Entrance Patuxent River—Chart No. 20.)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 20 11.66	76 24 25.40	S 32 44 W	N 32 44 E	2489	Drum Point Light.
			S 13 19 W	N 13 19 E	3996	Carroll 2.
			S 11 55 E	N 11 55 W	3300	Hog 2.
2	38 20 13.98	76 24 29.06	S 29 54 W	N 29 54 E	2505	Drum Point Light.
			S 11 44 W	N 11 44 E	4061	Carroll 2.
			S 13 15 E	N 13 15 W	3399	Hog 2.
3	38 20 53.46	76 23 53.58	N 32 02 W	S 32 02 E	4133	Drum Point Light.
			S 2 01 W	N 2 01 E	4642	Hog 2.
			S 26 02 E	N 26 01 W	6593	Cedar Point Light.
4	38 20 51.48	76 23 50.23	S 33 34 W	N 33 33 E	4124	Drum Point Light.
			S 3 10 W	N 3 10 E	4579	Hog 2.
			S 25 35 E	N 25 34 W	6494	Cedar Point Light.

LITTLE COVE POINT.

(*Entrance Patuxent River—Chart No. 20.*)

Corner of bar	Latitude	Longitude	True bearing: Forward	True bearing: Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 20 39.76	76 23 17.16	N 1 58 E	S 1 58 W	2035	Pat.
			S 46 06 W	N 46 04 E	4384	Drum Point Light.
			S 19 25 E	N 19 25 W	5792	Cedar Point Light.
2	38 20 59.42	76 23 38.88	N 25 14 E	S 25 14 W	1516	Pat.
			S 34 53 W	N 34 53 E	4515	Drum Point Light.
			S 6 32 W	N 6 32 E	4872	Hog 2.
3	38 21 20.38	76 23 16.98	N 5 34 E	S 5 34 W	667	Pat.
			S 35 39 W	N 35 38 E	5428	Drum Point Light.
			S 11 35 W	N 11 34 E	5663	Hog 2.
4	38 21 01.14	76 22 41.20	N 33 59 W	S 34 00 E	1584	Pat.
			S 47 34 W	N 47 32 E	5574	Drum Point Light.
			S 8 55 E	N 8 55 W	6259	Cedar Point Light.

COVE POINT BIGHT.

(*Entrance Patuxent River—Chart No. 20.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 21 26.96	76 22 07.02	N 20 11 W	S 20 12 E	3715	Cove Point Light.
			N 76 09 W	S 76 10 E	1846	Pat.
			S 0 30 E	N 0 30 W	7055	Cedar Point Light.
2	38 22 20.98	76 23 03.09	N 7 03 E	S 7 03 W	1682	Cove Point Light.
			N 62 59 W	S 62 59 E	934	White House (N. E. chimney).
			S 12 26 W	N 12 26 E	1412	Pat.
3	38 22 30.21	76 22 47.66	N 8 32 W	S 8 32 E	1369	Cove Point Light.
			N 84 48 W	S 84 49 E	1247	White House (N. E. chimney).
			S 22 53 W	N 22 53 E	1835	Pat.
4	38 21 34.40	76 21 56.12	N 25 54 W	S 25 54 E	3598	Cove Point Light.
			N 84 44 W	S 84 45 E	2091	Pat.
			S 1 47 W	N 1 47 E	7309	Cedar Point Light.

APPENDIXES.

Appendix A.—LAWS RELATING TO THE COOPERATION OF THE COAST AND GEODETIC SURVEY AND BUREAU OF FISHERIES WITH THE MARYLAND SHELL FISH COMMISSION.

The work of the Coast and Geodetic Survey and of the Bureau of Fisheries, in cooperation with the Maryland Shell Fish Commission, in surveying the oyster bars, establishing permanent landmarks at triangulation stations, and preparing for publication the necessary charts and technical and legal descriptions of boundaries and landmarks shown on these charts, has been executed in compliance with a request from the governor of the State of Maryland to the Secretary of Commerce and Labor, and by the authority of the following laws of the United States and Maryland:

[Act of Congress approved May 26, 1906.]

AN ACT To authorize the Secretary of Commerce and Labor to cooperate, through the Bureau of the Coast and Geodetic Survey and the Bureau of Fisheries, with the shellfish commissioners of the State of Maryland in making surveys of the natural oyster beds, bars, and rocks in the waters within the State of Maryland.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of Commerce and Labor be, and he is hereby, authorized and directed, upon the request of the governor of the State of Maryland, to designate such officers, experts, and employees of the Bureau of the Coast and Geodetic Survey and of the Bureau of Fisheries as may be necessary to cooperate with the Maryland State board of shellfish commissioners in making a survey of and locating the natural oyster beds, bars, and rocks in the waters within the State of Maryland; and the Secretary of Commerce and Labor is hereby authorized and directed to furnish to the officers, experts, and employees of said Bureaus so detailed as aforesaid such instruments, appliances, and steam launches as may be necessary to make the survey aforesaid; and the Secretary of Commerce and Labor is hereby authorized to have made in the Bureau of the Coast and Geodetic Survey all the plats necessary to show the results of the aforesaid survey and the locations of the said natural oyster beds, bars, and rocks in the waters within the State of Maryland, and to furnish to the board of shellfish commissioners of the State of Maryland such copies as may be necessary, and for this purpose to employ, in the District of Columbia and elsewhere, such technically qualified persons as may be necessary to carry out the purpose of this act.

Sec. 2. That the Secretary of Commerce and Labor is hereby further authorized to have erected or constructed by the officers so detailed as aforesaid, while making such survey, such structures as may be necessary to mark the points of triangulation, so that the same may be used for such future work of the Coast and Geodetic Survey as the said Bureau may be hereafter required to perform in prosecuting the Government coast survey of the navigable waters of the United States located within the State of Maryland.

* * * * * * *

Sec. 4. That this act shall take effect from the date of its passage.

[Act of Congress approved June 30, 1906.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and seven, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and seven, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including the expenditures authorized under Public Act Numbered One hundred and eighty-one, approved May twenty-sixth, nineteen hundred and six, and contingent expenses incident thereto, five thousand dollars, together with the unexpended balance under this appropriation for nineteen hundred and six and prior years which is hereby reappropriated and made available on this account for the fiscal year nineteen hundred and seven. * * *

[Act of Congress approved March 4, 1907.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and eight, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and eight, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, to be immediately available and to continue available until expended, twenty-five thousand dollars. * * *

[Act of Congress approved May 27, 1908.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and nine, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and nine, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, which expenses, including cost of plats and charts, shall not exceed fifteen thousand dollars in any one year, to be immediately available, twenty thousand dollars.

[Act of Congress approved March 4, 1909.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and ten, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and ten, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, which expenses, including cost of plats and charts, shall not exceed fifteen thousand dollars in any one year, to be immediately available, twenty thousand dollars.

[Act of the legislature of Maryland approved April 2, 1906.]

AN ACT To establish and promote the industry of oyster culture in Maryland, to define and mark natural oyster beds, bars and rocks lying under the waters of this State, to prescribe penalties for the infringement of the provisions of this Act, and * * *

SECTION 1. *Be it enacted by the General Assembly of Maryland,* That the following sections be, and they are hereby, added to Article 72 of the Code of Public General Laws, title "Oysters." * * *

SEC. 86. The Board of Shell Fish Commissioners shall, as soon as practicable after the passage of this Act, cause to be made a true and accurate survey of the natural oyster beds, bars and rocks of this State, said survey to be made with reference to fixed and permanent objects on the shore, giving courses and distances, to be fully described and set out in a written report of said survey, as hereinafter required. A true and accurate delineation of the same shall be made on copies of published maps and

charts of the United States coast and geodetic survey, which said copies shall be filed in the office of the said commissioners in the city of Annapolis; and the said commissioners shall further cause to be delineated upon copies of the published maps and charts of the United States coast and geodetic survey, of the largest scale, one copy for each of the counties of this State in the waters of which there are natural oyster beds, bars and rocks, all natural beds, bars and rocks lying within the waters of such county, which maps shall be filed in the offices of the clerks of the Circuit Court for the respective counties wherein the grounds so designated may lie. * * *

SEC. 87. The Governor of this State is hereby requested to ask the assistance of the United States coast and geodetic survey, and of the United States Fish Commissioner, to aid in the carrying out of the provisions of the preceding section.

* * * * * * *

SEC. 89. As soon as practicable after the first day of April, 1906, the said commissioners shall organize, and shall at once proceed, with the assistance of such person or persons as may be detailed by the United States coast and geodetic survey, and the United States Fish Commissioner, to aid them in their work, and of such persons as may be appointed under the preceding section, to have laid out, surveyed and designated on the said charts, the natural beds and bars, and shall cause to be marked and defined as accurately as practicable, the limits and boundaries of the natural beds, bars and rocks, as established by said survey, and they shall take true and accurate notes of said survey in writing, and make an accurate report of said survey, setting forth such a description of landmarks as may be necessary to enable the said board, or their successors, to find and ascertain the boundary lines of the said natural oyster beds, bars and rocks, as shown by a delineation on the maps and charts provided in this Act; said report shall be completed and filed in the office of the board in the city of Annapolis within ninety days after the completion of the survey of any county. Said commissioners shall cause the same to be published in pamphlet form, and transmit copies of the same to the clerks of the Circuit Court for the respective counties, where the charts have been filed or directed to be filed as hereinafter provided; the said report to be filed by the clerks of the several counties in a book kept for that purpose. And the said survey and report, when filed, subject to the right of appeal hereafter provided for in this Act, shall be taken in all of the courts of this State as conclusive evidence of the boundaries and limits of all natural oyster beds, bars and rocks, lying within the waters of the county wherein such survey and report are filed, and shall be construed to mean in all of the said courts that there are no natural oyster beds, bars or rocks lying within the waters of the counties wherein such report and survey are filed other than those embraced in the survey authorized by this Act, and that all areas of the Chesapeake Bay and its tributaries within the State of Maryland, not shown in the survey to be natural oyster beds, bars or rocks shall be construed in all the courts of the State to be barren bottoms, and open for disposal by the State for the purpose of private planting or propagation of oysters thereon under the provisions of this Act; provided, that the said survey and report shall not be construed as to affect in any manner the holdings by citizens of this State in any lot which may have been appropriated or taken up under the laws of this State prior to the approval of this Act

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The law of the State of Maryland, passed March 9, 1842, authorizing officers of the United States Coast and Geodetic Survey to enter upon the lands within the State limits for the purposes of the Survey, is as follows:

AN ACT Concerning the Survey of the Coast of Maryland.

SECTION 1. *Be it enacted by the General Assembly of Maryland,* That it shall and may be lawful for any person or persons employed under and by virtue of an act of the Congress of the United States, * * * at any time hereafter to enter upon lands within this State for the purpose of exploring, surveying, triangulating, or levelling, or doing any other matter or thing which may be necessary to effect the objects of said act, and to erect any works, stations, buildings, or appendages requisite for that purpose, doing no unnecessary injury to private or other property.

SEC. 2.[a] *And be it enacted,* That in case the person or persons employed under the act of Congress aforesaid, can not agree with the owners or possessors of the land so entered upon and used as to the

[a] Under the rulings of the Comptroller of the Treasury no damages can be collected except through the United States Court of Claims unless an agreement has been made in advance.

amount of damage done thereto by reason of the removal of fences, cutting of trees or injury to the crop or crops growing on the same, it shall and may be lawful for the said parties or either of them to apply to the chief justice for the time being or one of the associate judges of the judicial district in which such land may be situated, who shall thereupon appoint three disinterested and judicious freeholders, residents of the same judicial district, to proceed with as much despatch as possible to the examination of the matter in question, and the faithful assessment of the damages sustained by the owners or possessors aforesaid, and the said freeholders or a majority of them, having first taken and subscribed an oath or affirmation before the chief or associate justice aforesaid or other person duly authorized to administer the same, that they will well and truly examine and assess as aforesaid, and having given five days' notice to both parties of the time of their meeting, shall proceed to the spot, and then and there upon their own view and if required, upon the evidence of witnesses, (to be by them sworn or affirmed and examined) shall assess the said damages, and shall afterward make report thereof and of their proceedings in writing under their hands and seals and file the same within five days thereafter in the office of the clerk of the county in which the land aforesaid is situated, subject to an appeal by either party to the county court of the said county within ten days after filing as aforesaid, and the said report so made as aforesaid if no appeal as aforesaid be taken, shall be held to be final and conclusive as between the said parties, and the amount so assessed and reported shall be paid to the said owners or possessors of the land so damaged within twenty days after the filing of said report, and the said chief or associate justice as aforesaid, shall have authority to tax and allow upon the filing of said report, such costs, fees and expenses to the said freeholders for the performance of their duty as he shall think equitable and just, which allowance shall be paid by the person or persons employed under the act of congress aforesaid, within the time last above limited, but if an appeal as aforesaid be taken, the case shall be set down for hearing at the first term of county court aforesaid, ensuing upon and after appeal, and it shall be lawful for either party immediately after the entry of such appeal, to take out summons for such witnesses as may be necessary to be examined upon the hearing aforesaid, and the said court shall have power in its discretion to award costs against which ever the final judgment shall be entered, and such appeal at the option of either party may and shall be heard before and the damage assessed by a jury of twelve men to be taken from the regular panel and elected as in other cases.

SEC. 3. *And be it enacted,* That if any person or persons shall wilfully injure or deface or remove any signal, monument or building or any appendage thereto, erected, used or constructed under and by virtue of the act of congress aforesaid, such person or persons so offending shall severally forfeit and pay the sum of fifty dollars with costs of suit to be sued for and recovered by any person who shall first prosecute the same before any justice of the peace of the county where the person so offending may reside, and shall also be liable to pay the amount of damages thereby sustained, to be recovered with costs of suit in an action on the case, in the name and for the use of the United States of America, in any court of competent jurisdiction.

APPENDIX B.—THE HAMAN OYSTER CULTURE LAW.

[Extract from Second Report of Shell Fish Commission.]

OBJECT.

"The legislature in placing chapter 711 of the acts of 1906, better known as the Haman Oyster Culture Law, upon the statute books of Maryland had a twofold object in view:

1. To *encourage* an industry in oyster culture upon the *barren bottoms* beneath the tidewaters of the State.

2. To *prevent* the leasing of *natural oyster bars* for the purpose of oyster culture."

SURVEY.

"To make the leasing of barren bottoms possible and the leasing of natural bars impossible, provision was made for a survey of the natural bars for the purpose of accurately locating and marking the same. It was definitely provided that no barren bottoms should be leased in any part of the State until the natural bars of that region had been surveyed, charted, and marked with buoys."

Definition of a Natural Oyster Bar.

NATURAL BAR NOT DEFINED.

"The Shell Fish Commission is instructed by section 90 of the Haman Oyster Culture Law to exercise its judgment liberally in favor of the natural bars when surveying, charting and buoying them, but other than this the Commission is uninstructed in this important matter. The responsibility of defining a natural bar is placed upon the Commission."

DIVERSITY OF OPINION.

"No definition of a natural oyster bar could be formulated by any man or body of men which would meet with the approval of all parties concerned. Oystermen, as a rule, hold that all bottoms where oysters grow or have grown naturally even though now practically barren of oysters should be considered natural bars. Other citizens of the State who are not directly interested in the oyster business, but interested in the oyster industry from the standpoint of revenue, hold, as a rule, that no bottoms should be excluded from leasing for oyster culture which, by methods known to oyster culturists, may be made to yield a greater number of oysters than they now produce."

"It should be evident to every one that neither of these definitions could be adopted by the Commission as a working basis for determining which of the grounds surveyed are natural oyster bars."

THE GOLDSBOROUGH DEFINITION.

The definition of a natural oyster bar which very nearly approaches a reasonable and satisfactory compromise between the views of the subject held by *oystermen* on one hand and by *oyster culturists* on the other is that contained in an opinion rendered by Judge Charles F. Goldsborough in the circuit court for Dorchester County in the July term, 1881, in the case of William T. Windsor and George R. Todd *v.* Job T. Moore.

This definition has been adopted by the Shell Fish Commission as the basis for the determination of the status of the various oyster bottoms surveyed and is as follows:

What then is a natural bar or bed of oysters? It would be a palpable absurdity for the State to attempt to promote the propagation and growth of oysters and to encourage its citizens, by a grant of land, to engage in their culture, if the lands authorized to be taken up were only those upon which oysters do not and can not be made to grow. That there may be lands covered by water in the State where no oysters can be found, but where, if planted, they could be cultivated successfully, may be possible, but, if so, I imagine that their extent must be too limited for them to be of much practical, general advantage for the purposes of such a law as the one under discussion; but there are thousands of acres of hard and shifting sands where oysters not only are not found, but where it would be folly to plant them; and these latter it can not be supposed that the State intended to offer to give away, for the simple reason that the State could not help knowing that nobody would have them.

Upon the other hand there are large and numerous tracts where oysters of natural growth may be found in moderate numbers, but not in quantities sufficient to make it profitable to catch them, and yet where oysters may be successfully planted and propagated. In my opinion these can not be called natural bars or beds of oysters, within the meaning of the Act of Assembly, and it is just such lands as these that the State meant to allow to be taken up under the provisions of the above-mentioned section of the Act.

But there is still another class of lands where oysters grow naturally and in large quantities and to which the public are now and have been for many years in the habit of resorting with a view to earning a livelihood by catching this natural growth, and here, I think, is the true test of the whole question. Land can not be said to be a natural oyster bar or bed merely because oysters are scattered here and there upon it, and because if planted they will readily live and thrive there; but whenever the natural growth is so thick and abundant that the public resort to it for a livelihood, it is a natural oyster bar or bed and comes within the above-quoted restriction in the law, and can not be located or appropriated by any individual.

APPLICATION OF DEFINITION.

Before this definition may be of use in determining, accurately and scientifically, the status of an oyster ground, its central idea, "livelihood," must be expanded into accurately determinable factors, and these factors must be combined into a practical scheme of investigating the condition of the ground under consideration.

Stated briefly, a *livelihood* is represented by a *sum of money* obtained from the sale, at a fixed *price*, of a certain *quantity of oysters* gathered in a given *time* from an allotted *area* of ground.

Knowing the value of each of these factors it becomes possible to calculate the number of oysters an oyster ground must produce per square yard in order that oystermen may secure a livelihood by working upon it.

NOTE.—The factors into which the Commission resolved the livelihood problem, the value assigned to each factor, and the scheme devised for practical use in examining and applying the definition to oyster bottoms are given in outline in their Second Report under the heading of the preceding extract, and in detail in their First Report on pages 32 to 69.

APPENDIX C.—SUMMARY OF THE PARTICULAR SURVEYING OPERATIONS WHICH CONSTITUTE AN "OYSTER SURVEY" AS NOW BEING CARRIED ON IN MARYLAND.

Explanation.—A brief account of the particular surveying operations which constitute an "oyster survey" as now being carried on in Maryland will assist in the interpretation of records contained in the technical part of this report, and will be of interest to many who may not understand the necessity for the great amount of work being done or its complicated character.

To those familiar with methods used in surveying and charting the characteristic features of large bodies of water there is an evident necessity for the various operations performed, especially when it is known that the boundaries of the public oyster bars and of the private lots leased for purposes of oyster culture must be surveyed and charted with the greatest practical accuracy. To others it will be sufficient to state that the actual experience gained from oyster surveys in other States has proven that in order to avoid endless dissatisfaction and litigation it is necessary to accurately locate and permanently establish oyster boundaries as is now being done in Maryland.

Triangulation survey.—Such refinement of survey work as that demanded by the conditions of an oyster survey when carried on at considerable distances offshore can only be obtained by the use of a system of triangulation as a frame work or foundation. Therefore, a triangulation survey including the permanent marking of the positions of landmarks with monuments and a record of the descriptions of their locations for future recovery is a necessary operation of a complete oyster survey.

Topographic survey.—The technical records which establish the relation between the offshore oyster boundaries and triangulation landmarks are sufficient for the requirements of engineers in making resurveys, but do not supply the needs of others who are interested in the same boundaries by reason of their occupation as oystermen concerned as to the public oyster bars, or oyster culturists concerned as to the leasable bottoms. For these it is necessary to have the charts of the survey show the relation of the shore line and other topographic features to the boundaries of the public oyster bars and private oyster farms. Therefore, a topographic survey is a necessary operation of a complete oyster survey.

Hydrographic survey.—In the settlement of the important question of what is, or what is not, a natural oyster bar, and in the consideration of bottoms to be selected for purposes of oyster culture, information as to the depth of water and the character of the bottom is required. Therefore, a hydrographic survey is a necessary operation of a complete oyster survey.

Necessary foundation for an oyster survey.—Consequently, the necessary components of a satisfactory foundation for a complete oyster survey are the three classes of survey operations technically named triangulation, topography, and hydrography, or, stated in another way, the foundation of a practical oyster survey includes the surveying operations usually followed by the Coast and Geodetic Survey leading up to the preparation and publication of nautical charts.

Special surveys and investigations pertaining to oysters.—Having obtained this cartographic survey for a foundation, partly by new work and partly from records of previous work of the Government, the combined operations [a] making up an "oyster survey" are completed by superimposing on this foundation special surveys and investigations pertaining particularly to oysters or other shell fish.

The special surveys pertaining to oysters furnish information as to the location and outline of oyster-shell bottoms, and are carried on by the sounding boat party in addition to the usual hydrographic work.[b] This operation consists of the observation and record of the character of vibration of a wire and chain apparatus which is dragged over the bottom, the vibrations or lack of vibrations indicating the presence and quantity of shells or absence of shells.

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[a] See Appendix D of this publication for "Statistics of results of combined operations of the Government and State."

[b] See pages 104 to 123 of "First Annual Report of Maryland Shell Fish Commission."

The special oyster investigations [a] consist of the actual determination of the kind and quantity of oysters on the bottom, and such economic and biological studies of the supply of oyster food, density of water, character of the bottom, and other important matters as affect the growth of oysters. In this work the oyster investigation stations are located and buoyed by the hydrographic party while engaged in the survey of the oyster-shell limits. They are selected with the view of obtaining characteristic data which can be used for the interpretation of the recorded vibrations of the chain apparatus at all other points covered by the survey.

Preparation of results.—The actual surveying operations and oyster investigations having been completed for any one county, there still remains technical work of nearly equal magnitude to that described.[b] This work consists of the preparation of charts and technical descriptions of boundaries and landmarks for publication by the Government, the preparation of that part of the annual report of the Commission covering the special oyster surveys and investigations, the making of the leasing charts and finished projections, and finally the filing of the oyster charts and records with the courts and the Commission, thus opening a county for oyster culture.

Summary.—From the foregoing account it can be seen that a complete oyster survey properly conducted so as to answer all practical requirements of the present and permanency of results for the future is a very complicated affair, involving many lines of surveying and other scientific work, and requiring the professional services of experts in the various operations of cartographic surveying and shell-fish investigations.

[a] See pages 30 to 67 and 129 to 199 of "First Annual Report of Maryland Shell Fish Commission."

[b] No mention is made here of the large amount of administrative work of the Commission, which is greatly complicated and increased by the effect of the oyster-survey operations on many thousands of people whose interests are more or less involved; or of the large amount of survey work involved in the survey and record of the boundaries of oyster lots leased from the State by private individuals for the purposes of oyster culture.

APPENDIX D.—STATISTICS OF RESULTS OF THE COMBINED OYSTER SURVEY OPERATIONS OF THE GOVERNMENT AND STATE.[a]

Operations.	Anne Arundel County.	Somerset County.	Wicomico County.	Worcester. County.	Calvert County.	Total.[b]
Beginning of field work	June 29, 1906	May 2, 1907	Aug. 27, 1907	Nov. 8, 1907	May 2, 1908	
Filing of certified charts and reports	June 20, 1907	July 1, 1908	Dec. 1, 1908	Apr. 12, 1909	Dec. 14, 1909	
Natural oyster bars surveyed and delineated	91	37	15	28	41	212
Acres of natural oyster bars	33,666	27,566	2,038	1,655	12,303	[c]77,228
Crab bottoms surveyed and delineated		54				54
Acres of crab bottoms		32,108				32,108
Clam beds surveyed and delineated		3				3
Acres of clam beds		506				506
Boundary buoys located and planted	302	154	53	108	149	826
Triangulation landmarks established	123	86	30	48	78	334
Miles of shore line covered by triangulation	110	125	46	95	95	485
Square miles of water covered by triangulation	220	375	44	110	187	887
Miles of examination of shell bottom with chain apparatus	369	296	58	63	250	1,036
Oyster investigation stations occupied	440	679	162	147	667	2,095
Tide stations established	4	3	1	1	2	11
Number of soundings over shell bottoms	37,049	17,904	3,387	3,649	11,292	73,281
Square miles covered by soundings and chain apparatus	58	47	3	3	30	131
Projections prepared and plotted	9	13	2	5	8	36
Leasing charts prepared	13	12	2	3	5	35
Oyster charts published	4	6	2	3	5	20
Reports published	2	2	2	2	2	7
Progress maps published	2	2	2	2	2	7

[a] These statistics do not include the large amount of triangulation, topography, and hydrography resulting from previous work of the Coast and Geodetic Survey, which was utilized in the preparation of the published oyster charts and records. Work in St. Marys and Charles counties has been finished, but final statistics of results will not be published until these counties are opened for oyster culture.

[b] Less quantities covered by statistics of more than one county.

[c] Total area of natural oyster bars of Connecticut is 5,770 acres.

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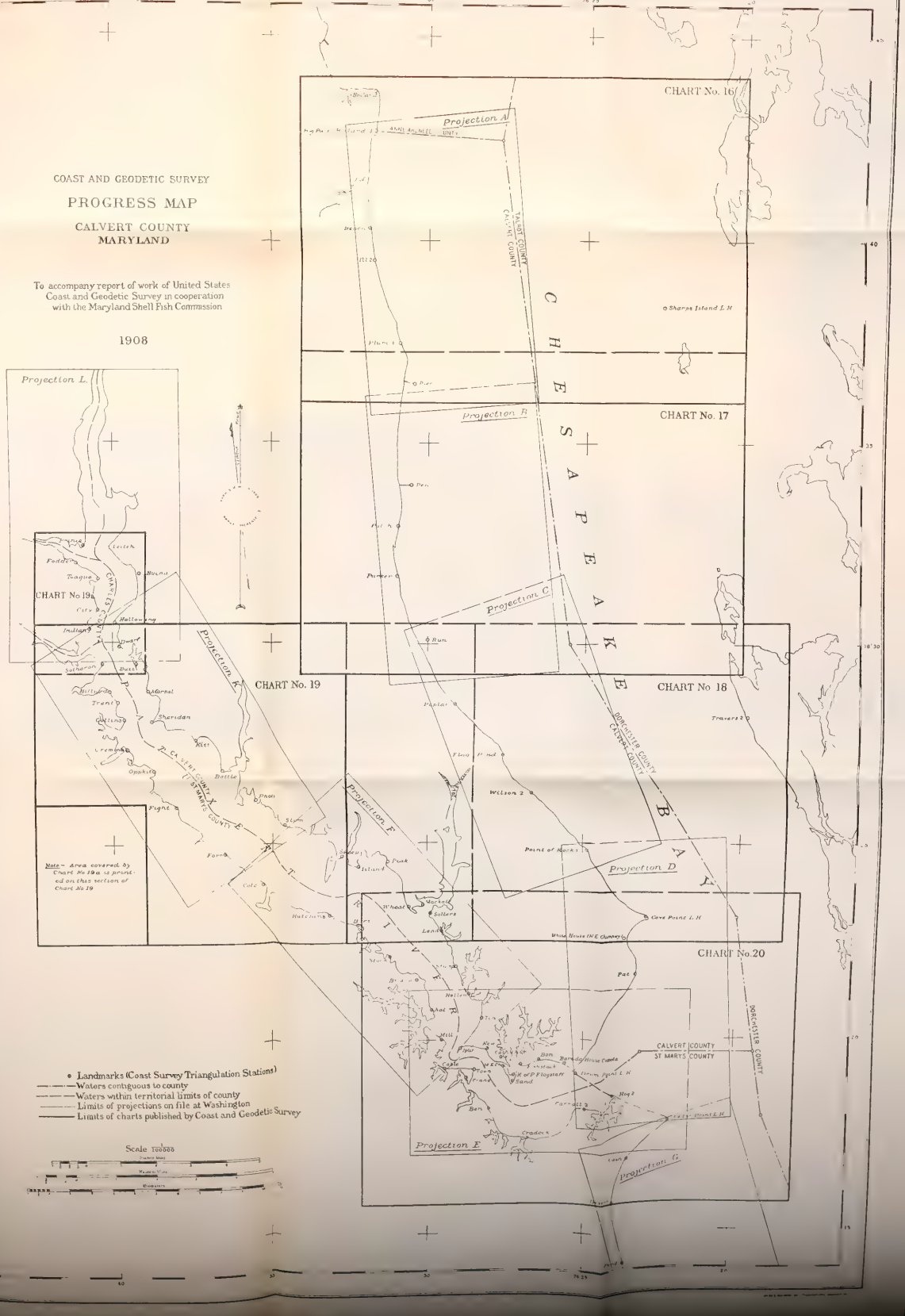
COAST AND GEODETIC SURVEY

PROGRESS MAP

CALVERT COUNTY
MARYLAND

To accompany report of work of United States Coast and Geodetic Survey in cooperation with the Maryland Shell Fish Commission

1908



DEPARTMENT OF COMMERCE AND LABOR
COAST AND GEODETIC SURVEY
O. H. TITTMANN, Superintendent

SURVEY OF OYSTER BARS

CHARLES COUNTY MARYLAND

DESCRIPTION OF BOUNDARIES AND LANDMARKS AND REPORT OF WORK OF UNITED STATES COAST AND GEODETIC SURVEY IN COOPERATION WITH UNITED STATES BUREAU OF FISHERIES AND MARYLAND SHELL FISH COMMISSION

By C. C. YATES
CHIEF OF COAST AND GEODETIC SURVEY PARTY
ASSISTANT, COAST AND GEODETIC SURVEY

WASHINGTON
GOVERNMENT PRINTING OFFICE
1911

LETTER OF SUBMITTAL.

DEPARTMENT OF COMMERCE AND LABOR,
COAST AND GEODETIC SURVEY,
Washington, January 27, 1911.

SIR: I have the honor to transmit herewith a report of the officer detailed from the Coast and Geodetic Survey to cooperate with the Bureau of Fisheries and the Maryland Shell Fish Commission in surveying the oyster bars of the State of Maryland, together with certain technical results which are necessary for the interpretation and use of the plats of the survey made by the Government.

This work has been done under the provisions of the act of Congress entitled "An act to authorize the Secretary of Commerce and Labor to cooperate, through the Bureau of the Coast and Geodetic Survey and the Bureau of Fisheries, with the shell fish commissioners of the State of Maryland in making surveys of the natural oyster beds, bars, and rocks in the waters within the State of Maryland," approved May 26, 1906, and of the acts of Congress making appropriations for sundry civil expenses of the Government for the fiscal years ending June 30, 1907, 1908, 1909, and 1910.

Respectfully,

O. H. TITTMANN, *Superintendent.*

To Hon. CHARLES NAGEL,
Secretary of Commerce and Labor.

CERTIFICATION.

BALTIMORE, MD., *January 25, 1911.*

The following publication is certified to contain correct technical descriptions of all boundaries and landmarks established in Charles County by the Maryland Shell Fish Commission in cooperation with the United States Coast and Geodetic Survey.

C. C. YATES,
Chief of Coast and Geodetic Survey Party,
Assistant, Coast and Geodetic Survey.

BALTIMORE, MD., *January 25, 1911.*

Examined and certified to be correct.

WALTER J. MITCHELL,
CASWELL GRAVE,
BENJAMIN K. GREEN,
Maryland Shell Fish Commission.
SWEPSON EARLE,
Hydrographic Engineer.

NOTE.—Certified copies of this publication and of the charts of the natural oyster bars of Charles County were filed in the office of the clerk of the circuit court of Charles County and in the office of the Board of Shell Fish Commissioners on January 27, 1911.

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[a] See also subchart on Chart No. 19.
[b] See separate publications for boundaries of natural bars in adjacent counties.

SURVEY OF OYSTER BARS, CHARLES COUNTY, MD.

INTRODUCTION.

PUBLICATIONS.

The preparation of publications relating to the survey of the oyster bars of Maryland has been divided between the Government and the State in accordance with the laws [a] authorizing the work and the natural division of the surveying operations [b] of the cooperating forces.

The publications prepared and issued by the Government under the direction of the Superintendent of the Coast and Geodetic Survey consist of a series of charts and a technical report for each county surveyed.[c] The charts show all legal boundaries of oyster bars within the adopted boundaries of the waters opened up for leasing with each county, and the location of all landmarks (Coast and Geodetic Survey triangulation stations) used as a foundation for the delineation of these various boundaries. The technical report gives technical and legal descriptions of all oyster bar and other boundaries, and descriptions of all landmarks shown on the charts, and includes the report of the representative of the Coast and Geodetic Survey in charge of the work of that service in cooperation with the Bureau of Fisheries and the Maryland Shell Fish Commission. These charts and technical reports are prepared and certified for file with the courts and the Commission, as required by the laws of the State, and contain all information necessary to make a permanent record of the work of the Commission and the Government for all future requirements of the courts, or for any resurveys that may become necessary.[d]

The publications prepared and issued by the State under the direction of the Shell Fish Commission consist of annual reports[e] of all the operations of the Commission

[a] See Appendix A for laws relating to the cooperation of the Coast and Geodetic Survey and Bureau of Fisheries with the Maryland Shell Fish Commission.

[b] See Appendix C for a summary of the particular surveying operations which constitute an "oyster survey" as now being carried on in Maryland.

[c] These charts and technical reports can be obtained by application to the Superintendent of the Coast and Geodetic Survey at Washington, D. C. The publications now ready for issue are those for Anne Arundel, Somerset, Wicomico, Worcester, Calvert, and Charles counties.

[d] The technical records and charts for each county are published separately on account of the requirements of the oyster-culture laws of the State and the practical considerations which make it desirable to have each county "opened up" for oyster culture as soon as practicable after the completion of its survey. For these reasons and the fact that these reports are each arranged for distribution and use in one county only without reference to other published records, much of the text of this publication is of necessity identical with similar previous publications for other counties.

[e] These reports can be obtained by application to the Shell Fish Commission, Marine Bank Building, Baltimore, Md. They are issued annually in October, and the first and second reports are now available for distribution.

performed under the provisions of the laws of Maryland,[a] including results of biological and economic oyster investigations, methods and results of the hydrographic survey of the boundaries of oyster bars and crab bottoms, the administrative report and financial statement of the Commission, information relating to oyster culture, methods of surveying and leasing of oyster lots, and much other important matter of legal and scientific value.

These two sets of publications are planned and arranged to supplement each other without unnecessary duplication, and when combined they form a complete report of operations, methods, and results of the work of both the Government and State.[b]

COOPERATION OF THE COAST AND GEODETIC SURVEY.

The work of the Coast and Geodetic Survey, as the name of the service indicates, includes a survey of the coasts of the United States made on a geodetic basis. This has involved the gradual construction of a great framework of interstate triangulation for use as a foundation for detail hydrographic and topographic surveys, from which there has been compiled and published a complete set of charts of the coasts of the United States, including all waters of Maryland where oysters grow. This existing triangulation, hydrography, and topography is essential as a foundation for a correct and practical survey of natural oyster bars; and it being one of the fundamental functions of the Coast and Geodetic Survey to furnish such data, the cooperation of the Coast and Geodetic Survey with the Bureau of Fisheries and the Maryland Shell Fish Commission is a practical and natural development of Government work leading to the conservation and increase of the supply of food.

COOPERATION OF THE BUREAU OF FISHERIES.

The Bureau of Fisheries has cooperated with the Coast and Geodetic Survey and the Maryland Shell Fish Commission principally as an adviser in matters relating to the biological and economic survey of oyster bars and the methods to be employed for that purpose.[c] A steam launch, rowing boat, and certain apparatus have also been furnished.

The primary function of the Bureau of Fisheries is to increase the productiveness of marine and fresh waters by such measures as may be best suited to the purpose, and the services rendered in connection with the survey of the oyster bars of Maryland are strictly in line with the fundamental law under which it acts. In certain States other than Maryland similar work has been conducted by the Bureau acting independently, the same ends being attained at greater expense to the Government.

GENERAL STATEMENT OF WORK OF COAST AND GEODETIC SURVEY.[d]

The results obtained from the work of the Coast and Geodetic Survey in cooperation with the Bureau of Fisheries and the Maryland Shell Fish Commission need very

[a] See Appendix B for an extract from the "Second Report of the Maryland Shell Fish Commission," giving a concise summary of the "Haman Oyster Culture Law."

[b] See Appendix D of this publication for "Statistics of results of combined operations of the Government and State."

[c] Hon. George M. Bowers, Commissioner of Fisheries, has detailed for this service Dr. H. F. Moore, Assistant, Bureau of Fisheries.

[d] For a detail statement of the very large amount of excellent oyster survey work of the Maryland Shell Fish Commission see the "Annual Reports of the Maryland Shell Fish Commission."

little other summary than is indicated by the published "Charts of Natural Oyster Bars" and the index of hydrographic projections and triangulation stations shown on the county progress maps attached to each report.

The triangulation has been carried on in accordance with the standard methods of the Coast and Geodetic Survey, making this work and that of the "Descriptions of Triangulation Stations" of permanent value, not only to the State of Maryland in the survey of her oyster bars, but also to the Government for any future work it may do in the regions covered by the oyster-survey operations.

The hydrographic projections and published charts are prepared with all the accuracy permitted by their large scale, especially as to the boundaries of the various shell-fish bottoms in relation to landmarks, but this accuracy of location on the charts is further added to and permanently fixed by published technical descriptions which should minimize the probability of any future dispute as to either landmarks or boundaries.

Stated another way, and quoting from the report of the "Survey of Oyster Bars of Anne Arundel County":

> The geographic positions of the permanent landmarks and signals have been determined with the usual precision of a trigonometric survey, and their locations at all points necessary to provide ample foundation for the surveying and charting operations permitted great accuracy of definition and location for the natural oyster bar and other boundaries established. At the same time, the very important element of permanency of the positions of boundaries has been secured, as the relocation of geodetic positions can always be accomplished by a competent surveyor, even though the original landmarks and monuments have been washed away, as has been the fate of hundreds of such points established by the Coast and Geodetic Survey on the shores of the Chesapeake Bay during the last 65 years.

REPORT OF THE WORK OF THE COAST AND GEODETIC SURVEY IN CHARLES COUNTY.

INSTRUCTIONS.

The following letters, together with the laws[a] of the United States relating to the subject, constitute the "instructions" received by the chief of the Coast and Geodetic Survey party engaged on work in connection with the Maryland Shell Fish Commission. They are short and definite, but furnish ample authority and leeway for all legitimate development of the cooperation of the Government and the State in the survey of oyster bars. The "free hand" permitted by these orders, together with the aid and many valuable suggestions received from the officers of the survey at Washington, have proved very beneficial to the work and are greatly appreciated.

DEPARTMENT OF COMMERCE AND LABOR,
OFFICE OF THE SECRETARY,
Washington, June 2, 1906.

SIR: In reply to your letter of May 28, requesting me to designate officers of the Coast and Geodetic Survey and of the Bureau of Fisheries to cooperate with the State of Maryland in making survey of and locating the natural oyster beds, I have the honor to inform you that Mr. C. C. Yates will be designated to cooperate on the part of the Coast and Geodetic Survey as soon as Congress makes the provisions of the act effective by providing an appropriation for the purpose.

Respectfully,

LAWRENCE O. MURRAY, *Assistant Secretary.*

His Excellency Hon. EDWIN WARFIELD,
Governor of Maryland, Annapolis, Md.

DEPARTMENT OF COMMERCE AND LABOR,
COAST AND GEODETIC SURVEY,
Washington, July 3, 1906.

SIR: Upon the receipt of these instructions you will surrender the command, accounts, etc., of the steamer *Endeavor* to the Hydrographic Inspector. * * *

As soon as this transfer is completed you will enter upon the duties of Coast Survey representative on the Shell Fish Commission of Maryland.

You will consult the Commissioners, prepare a programme of work, and submit estimates in the usual form.

You are authorized to come to Washington for consultation from time to time as may be necessary.

* * * * * * *

Very respectfully,

O. H. TITTMANN, *Superintendent.*

Capt. C. C. YATES,
U. S. C. and G. S. Steamer Endeavor, Baltimore, Md.

[a] For these laws see Appendix A.

ORGANIZATION AND EQUIPMENT.

The personnel and occupation of the party of the Coast and Geodetic Survey have remained practically unchanged since the beginning of the "oyster survey." Besides the chief of party, it consists of the necessary triangulators, computers, draftsmen, and temporary employees required to carry on both the surveying operations in the field and the preparation for publication of oyster charts and technical records in the office at Washington.

The equipment for the work of the party has been ample and satisfactory. The large living and office quarters furnished the Government on the Maryland Shell Fish Commission house boat *Oyster* have been very convenient for the work, besides facilitating efficient cooperation with the surveying and oyster investigation parties of the State. In addition to the accommodations on the *Oyster*, the Coast and Geodetic Survey party has had the constant use of the large steam launch *Inspector* and several other boats furnished by its own service, and the occasional use of the Bureau of Fisheries launch *Canvasback* [a] and the steamer *Governor McLane* [b] of the State fishery force.

The greater part of the equipment of instruments for the operations of both the Government and State has been furnished by the Coast and Geodetic Survey and consists of all necessary theodolites, levels, sextants, drafting instruments, hydrometers, etc., required for all field and office work.

CRONOLOGICAL STATEMENT OF WORK.

The field work of the Coast and Geodetic Survey in Charles County [c] dates from August 18, 1908, when the house boat *Oyster* was moved from St. Leonards Creek to an anchorage in Battle Creek which is located about 5 miles to the south of that small portion of Charles County bordering on the Patuxent River. The headquarters of the surveying operations remained at this harbor until the completion of that part of the field work which naturally included all of the Patuxent River waters of Calvert and St. Marys counties as well as those of Charles County, although the results are published separately.

On September 3, 1908, the house boat finally left the Patuxent River for a new anchorage in one of the tributaries of Potomac River in St. Marys County, and the field work in Charles County was dropped from that date for a period of nearly two months.

On October 28, 1908, the house boat *Oyster* was towed by the *Governor McLane* to an anchorage in the lower part of Wicomico River off Rock Point in Charles County. From this anchorage as a headquarters the surveying operations for the Wicomico waters of both Charles and St. Marys counties were carried on until practically completed on November 25, 1909, when the house boat was towed to Bretons Bay off Leonardtown in St. Marys County.

On December 2, 1909, it was found necessary to obtain additional triangulation information for the publication of the technical report for Calvert County, which inci-

[a] By courtesy of Dr. H. F. Moore, United States Bureau of Fisheries.

[b] By courtesy of Capt. James A. Turner, commanding.

[c] The field work of Charles, Calvert, and St. Marys counties was so intermixed in the Patuxent River that the chronological statement of work for any one of these counties necessarily includes a considerable part of the work of the other counties.

dentally involved new work required for the report for Charles County, and field work was carried on for that purpose from that date to December 8, 1909.

Again from July 20 to August 11, 1910, while the house boat *Oyster* was anchored in the mouth of the Patuxent River for the purpose of carrying on the oyster survey operations in the bay shore waters of Dorchester County, a number of days when work could not be done in the open bay were employed in checking up deficiencies in the description of stations required for the forthcoming publications of both Charles and St. Marys counties.

The large amount of office work connected with the "oyster survey" of Charles County, including computations and drafting necessary for the preparation for publication of the oyster charts and the technical records, was continued intermittingly with the office work of other counties from the beginning of the field work in Charles County to the time of filing of the certified oyster charts and technical reports in the archives of the Commission and with the clerk of the circuit court of Charles County on January 27, 1911.

STATISTICS.[a]

Landmarks and triangulation signals erected	37
Monuments planted to mark triangulation stations	37
Triangulation stations occupied for observations of horizontal angles	35
Old triangulation stations recovered	3
New triangulation stations established	39
Total old and new triangulation stations marked and described	42
Linear miles of shore line covered by triangulation (approximate)	32
Square miles covered by triangulation (approximate)	20
Hydrographic projections prepared and completed as records of oyster boundaries	3
Triangles computed	80
Geographic positions computed	40
Corners of oyster boundaries established by computation	78
Back azimuths and distances computed from corners of boundaries to triangulation stations	234
Descriptions of triangulation stations prepared for publication	42
Descriptions of oyster boundaries prepared for publication	15
"Charts of Natural Oyster Bars" prepared for publication	1
Progress map prepared for publication	1

GENERAL REMARKS.

Before ending this report the representative of the Coast and Geodetic Survey wishes to renew his statement of appreciation of the courteous assistance received from various Government and State officials and others interested in the oyster industry of Maryland, especially to the following:

To his colleague from the Department of Commerce and Labor, Dr. H. F. Moore, of the Bureau of Fisheries, whose well-known scientific knowledge of all matters relating to oysters has been of great value to the work.

[a] These statistics only include field and office work directly performed by the party of the Coast and Geodetic Survey in connection with the oyster survey of Charles County, and do not include the many thousands of soundings and examinations of the character of the bottom made by the engineers of the Commission, which are of considerable value to the Coast and Geodetic Survey as hydrographic records for future use in connection with the preparation of new editions of charts of the waters of Maryland. See Appendix D of this publication for "Statistics of results of combined operations of the Government and the State."

To Mr. Walter J. Mitchell, chairman of the Maryland Shell Fish Commission, who, by his administrative ability in carrying out the complicated requirements of the oyster laws and by his unfailing tact, has made the cooperation of the various services engaged on the work both agreeable and effective.

To Dr. Caswell Grave, secretary of the Commission, who, as editor of the Commission's annual report and Commissioner in charge of the biological and economic oyster investigations, has been brought into constant contact with the Government work and aided its operations in every way.

To Mr. Benjamin K. Green, treasurer of the Commission, who has looked after the equipment and commissary of the house boat in such a way as to add greatly to the comfort and convenience of the party of the Coast and Geodetic Survey.

To Mr. Swepson Earle, hydrographic engineer to the Commission, whose knowledge of the work from former service in the Coast and Geodetic Survey has greatly facilitated his practical use of the technical data furnished by the Government.

To Mr. Thomas H. Robinson, counsel to the Commission, for courteously furnishing valuable information relating to county boundaries.

And to the many others connected with the Commission or who as residents in the locality where the work was being carried on have greatly assisted by furnishing important information or willing services.

CHARTS AND MAPS.

CHARTS OF NATURAL OYSTER BARS.

The charts [a] of the natural oyster bars of Charles County, published by the Coast and Geodetic Survey from results of surveys of the Government in cooperation with the Maryland Shell Fish Commission, are grouped on one sheet covering a portion of the waters of the upper Patuxent River and all of the waters of the Wicomico River, including all oyster-producing bottoms in Charles County. They are published on a scale of 1 part in 20,000 (approximately $3\frac{1}{6}$ inches to a statute mile) and are constructed on polyconic projections and based on the United States standard datum of the Coast and Geodetic Survey.

These charts show all oyster bars and other boundaries established by the Commission, and are certified for the purpose of filing in the office of the clerk of the Circuit Court of Charles County and in the office of the Commission at Annapolis, as required by the oyster laws of Maryland.

In addition to the oyster bar and other boundaries, the charts show the location and name of all landmarks (U. S. Coast and Geodetic Survey triangulation stations) used in making the survey, together with the hydrography and topography [b] necessary to make the technical definitions and delineations of boundaries readily understandable both by the people engaged in the oyster industry and the general public who may become interested through leasing of barren bottoms for oyster culture.

The names of the oyster bars are those used locally, as nearly as could be ascertained by the hydrographic engineer of the Commission. When there was no local name in common use, a name was selected from one of the prominent features of the vicinity. By the use of recognized names or those that would naturally suggest certain sections of water, it is believed that much confusion will be avoided in the location on the charts of the oyster bars, especially by those not familiar with the use of maps.

The corners of the oyster bars are numbered from 1 to the total number of corners in each area under consideration. Where boundaries adjoin, making one point a corner of two or more oyster bars, these points have two or more numbers, each number corresponding to the bar in which the figure is located. The numbers of the corners correspond with the technical and legal descriptions of this publication under the heading "Boundaries of natural oyster bars."

The landmarks and oyster bars have been grouped in the "Contents" of this publication in accordance with the charts upon which they are shown. To find a particular

[a] These charts can be obtained by application to the Superintendent of the Coast and Geodetic Survey, at Washington, D. C.

[b] Much of the detail of the inshore topography was obtained from the excellent map of Charles County, prepared and published by the Maryland Geological Survey under the direction of Dr. William Bullock Clark from surveys of the Maryland Geological Survey in cooperation with the U. S. Geological Survey.

oyster bar or landmark which is only known by name, consult the "Contents" and the desired chart and general location will be indicated. To find the name of a bar or landmark which is only known by location, consult the progress map at the end of this publication for the number of the chart on which it is to be found, and then examine the known locality on the chart for the name of the bar or landmark in question.

The contours on the charts showing the depth of water at mean low tide have been taken from the hydrographic sheets of former work of the Coast and Geodetic Survey. Four curves were selected as being the most convenient for taking off from the original hydrographic sheets and the ones of greatest value to those interested in shell fish industries. The 1-fathom contour (6 feet) and the 5-fathom curve (30 feet) correspond in a general way to the inner and outer limits of all the oyster bars surveyed. The 3-fathom contour (18 feet) furnishes the curve of about the average depth of water on the oyster bars and the 10-fathom contour (60 feet) serves in a general way to indicate the outer limits of probable oyster culture.

The boundaries of the waters within the "territorial limits of the county" and the boundaries of the "waters contiguous to the county" opened up for the leasing with Charles County are plainly indicated on the charts. A full technical description of these boundaries is given in this publication under the heading "Boundaries of county waters."

The areas in acres of the oyster bars were determined under the direction of the hydrographic engineer of the Commission by two independent planimeter measurements of the areas as delineated on the smooth projections of the Coast and Geodetic Survey. These areas are given in small figures in parentheses on the face of the chart within the boundaries of the different shell fish bottoms.

The symbols used on the charts for the different kinds of boundaries, triangulation stations, contours of depth of water, etc., require no other explanation than that given in the legend and other notes on the face of the charts.

LEASING CHARTS.

The leasing charts of Charles County, like those for Anne Arundel, Somerset, Wicomico, Worcester, and Calvert counties, have been prepared under the direction of the hydrographic engineer of the Commission. These charts are constructed on polyconic projections and are based on the United States standard datum of the Coast and Geodetic Survey. They are made on the scales of 1 part in 5,000 or 1 part in 10,000, as the needs of oyster culture may require. Anne Arundel County required 13 leasing charts; Somerset County, 12 charts; Wicomico County, 2 charts; Worcester County, 3 charts; Calvert County, 5 charts; and Charles County, 2 charts, to cover their oyster bottoms.

These charts show all the oyster bars, crab bottoms, and clam beds and other boundaries established by the Commission, and also all boundaries of oyster lots leased for the purpose of oyster culture, thus making them comprehensive and valuable records of the results of the operations of the oyster-culture laws.

The lots leased under the provision of the "old 5-acre law" are frequently of irregular shape, but the lots leased under the provision of the new oyster laws must be of rectangular shape by the terms of that act. For this latter purpose the leasing charts

have been divided by parallels of latitude and meridians of longitude into small rectangles of 1 acre or 5 acres, as may be best suited to the area under consideration, and prospective leaseholders by the rules of the Commission are compelled to select whole rectangles as far as possible.

For reasons of the present changeable nature of the number of lots leased and the large number of charts required, the leasing charts are not likely to be published for some years, but they can be seen at any time on file at the offices of the Commission, in the Marine Bank Building at Baltimore.

PROJECTIONS.

The polyconic projections[a] covering Charles County waters are 3 in number and on the scale of 1 part in 10,000. They were constructed by draftsmen of the Coast and Geodetic Survey, but the sextant positions which determine the location of the legal boundaries of the oyster bars as delineated by the Shell Fish Commission were plotted by the draftsman of the Commission.

A copy of each of these projections, with all the plotted positions of triangulation stations, shore line, sextant positions, and boundaries of oyster bars, was made under the direction of the hydrographic engineer of the Commission by pricking through with a sharp needle the intersections of the projection lines and all other points as plotted on the original sheets.

These projections (in duplicate) are the original records of all oyster bar and other boundaries established by the Commission, one set being filed in the archives of the Coast and Geodetic Survey, at Washington, and the other set in the archives of the Shell Fish Commission.

PROGRESS MAPS.

The progress map to be found at the end of this publication is on a scale of 1 part in 100,000, and shows in outline the work accomplished by the United States Coast and Geodetic Survey in Charles County and contiguous waters. It gives the scheme of all the charts and smooth projections constructed in connection with the survey, the location and names of all triangulation stations used as a basis for the surveying work, and the "boundaries of county waters" established by the Commission for the purpose of carrying out the laws of Maryland relating to oyster culture.

Besides indicating the amount of work done by the Coast and Geodetic Survey in connection with the work of the Shell Fish Commission, this progress map will be of special value for index purposes to engineers and others searching for the particular chart or projection covering the locality of the oyster bars or landmarks that may be under consideration.

The progress maps[b] accompanying the first and second annual reports of the Maryland Shell Fish Commission were prepared under the direction of the hydrographic engineer of the Commission. They are on the scale of 1 part in 400,000, and show the outline of the tide-water counties of Maryland, with shaded areas to indicate the waters already covered by the operations of the oyster survey.

[a] For the scheme of these projections see the progress map at the end of this publication.

[b] These maps and reports can be obtained by application to Maryland Shell Fish Commission, Marine Bank Building, Baltimore, Md.

BOUNDARIES OF THE COUNTY WATERS.[a]

WATERS WITHIN TERRITORIAL LIMITS OF COUNTY.

The laws of Maryland relating to oyster culture provide that "no person shall be permitted, by lease, assignment, or in any other manner, to acquire a greater amount of land than ten acres situated within the territorial limits of any of the counties, or one hundred acres in any other place."

The boundary line[b] between the waters "within the territorial limits" of Charles County and the waters in "any other place," as established by the Shell Fish Commission for the purpose of carrying out the oyster laws, and delineated on the "oyster" charts and the smooth projections of the Coast and Geodetic Survey, is technically described and defined as follows:

Patuxent River waters of Charles County.—Following the boundary line between Charles County and Prince Georges County along the middle of Swanson Creek as laid down on "Chart No. 26, Natural Oyster Bars, Maryland," to a point defined by the intersection of this boundary line with the boundary line of Calvert County in Patuxent River; thence along the boundary line between Calvert and Charles counties in Patuxent River as laid down on "Chart No. 26, Natural Oyster Bars, Maryland," to a point defined by the intersection of this boundary line with the boundary line between Charles and St. Marys counties off the entrance to Indian Creek; thence along the boundary line between Charles and St. Marys counties in the middle of Indian Creek as laid down on "Chart No. 26, Natural Oyster Bars, Maryland."

Wicomico River waters of Charles County.—Following the boundary line between Charles County and St. Marys County along the middle of Wicomico River as laid down on "Chart No. 26, Natural Oyster Bars, Maryland," from the upper end of Wicomico River, as shown on said chart, to a point at the mouth of Wicomico River defined by the intersection of this boundary line with the straight line between the center point of Cobb Point Bar Light defined by latitude 38° 14′ 33.3″ and longitude 76° 49′ 36.9″ and a point on the northwest end of St. Catherine Island defined by latitude 38° 14′ 28.9″ and longitude 76° 48′ 10.9″; thence along a straight line dividing the "waters within territorial limits of county" and the "waters of Potomac River under joint jurisdiction of Maryland and Virginia as to fisheries" to the center point of Cobb Point Bar Light defined by latitude 38° 14′ 33.3″ and longitude 76° 49′ 36.9″; thence along a line following Cobb Point Bar, as laid down on "Chart No. 26, Natural Oyster Bars, Maryland," to a point located on Cobb Point defined by latitude 38° 15′ 17.5″ and longitude 76° 50′ 33.4″; thence along the mean low water line of the Maryland shore of Potomac River or a line across the mouth of all inlets less than 100 yards in width, as the case may be, and then continuing along the Maryland shore of Potomac River, crossing the mouth of Potomac River entrances of Neals Sound, around Swan Point, and crossing the mouth of Cuckold Creek and all other creeks, bays, and inlets of Potomac River under the sole jurisdiction of Maryland, to the intersection of this line with the boundary line between Charles County and Prince Georges County.[c]

[a] For a complete historical and legal description of the boundaries of the counties of Maryland, the valuable publication entitled "The Counties of Maryland—Their Origin, Boundaries, and Election Districts," prepared by Dr. Edward B. Mathews and published by the Maryland Geological Survey under the direction of Dr. William Bullock Clark, Superintendent, should be consulted, as the boundaries described in this publication have been established and technically defined for the purpose of carrying out the oyster laws of the State, and may or may not be correct for other purposes.

[b] See "Charts of Natural Oyster Bars," published by the Coast and Geodetic Survey, and the progress map at the end of this publication.

[c] Latitudes and longitudes based on the United States standard datum of the United States Coast and Geodetic Survey.

WATERS CONTIGUOUS TO COUNTY.

The oyster laws of Maryland provide that a true and accurate delineation of all natural oyster bars shall be made on copies of charts of the United States Coast and Geodetic Survey, "which said copies shall be filed in the office of the said Commissioners in the city of Baltimore," and "in the office of the clerks of the circuit courts for the respective counties wherein the grounds so designated may lie."

For the purpose of carrying out the latter part of this section of the law and for the purpose of establishing the limits of the oyster-culture area to be opened up for leasing with each county surveyed, it is necessary for the Shell Fish Commission to establish a boundary line between the waters contiguous to but not within the territorial limits of each county and the waters contiguous to but not within the territorial limits of adjacent counties.

This boundary line has been delineated on the "Charts of Natural Oyster Bars," published by the Coast and Geodetic Survey, and is technically described and defined as follows:

Commencing at a point located at the mouth and near the middle of Wicomico River defined by the intersection of the boundary line between Charles County and St. Marys County as laid down on "Chart No. 26, Natural Oyster Bars, Maryland," and the straight line between the center point of Cobb Point Bar Light defined by latitude 38° 14′ 33.3″ and longitude 76° 49′ 36.9″ and a point on the northwest end of St. Catherine Island defined by latitude 38° 14′ 28.9″ and longitude 76° 48′ 10.9″; thence along a straight line dividing the "waters within territorial limits of county" and the "waters of Potomac River under joint jurisdiction of Maryland and Virginia as to fisheries" to the center point of Cobb Point Bar Light defined by latitude 38° 14′ 33.3″ and longitude 76° 49′ 36.9″; thence along a line following Cobb Point Bar as laid down on "Chart No. 26, Natural Oyster Bars, Maryland," to a point located on Cobb Point defined by latitude 38° 15′ 17.5″ and longitude 76° 50′ 33.4″; thence along the Maryland shore of the Potomac River across the entrances to Neals Sound, Cuckold Creek, and all other sounds, bays, creeks, or inlets under the sole jurisdiction of Maryland as to fisheries, to the intersection of this line with the boundary line between Charles County and Prince Georges County.[a]

[a] Latitudes and longitudes based on the United States standard datum of the United States Coast and Geodetic Survey.

LANDMARKS (U. S. COAST AND GEODETIC SURVEY TRIANGULATION STATIONS).

EXPLANATION.

The oyster laws of Maryland authorizing the survey to be made by the Shell Fish Commission provide for "an accurate report of said survey, setting forth such a description of landmarks as may be necessary to enable the said board, or their successors, to find and ascertain the boundary lines of said natural oyster beds, bars, and rocks, as shown by delineation on the maps and charts." The law of the United States authorizing the cooperation of the Department of Commerce and Labor in the survey of natural oyster bars of Maryland provides for the erection of "such structures as may be necessary to mark the points of triangulation, so that the same may be used for such future work of the Coast and Geodetic Survey as the said Bureau may be hereafter required to perform in prosecuting the Government coast survey of the navigable waters of the United States located within the State of Maryland."

Under the provisions of the sections of the laws stated above, the markings and descriptions of landmarks must be sufficient for the present and future needs of both the Government and the State. With this end in view, considerable work has been expended in erecting permanent monuments at the triangulation stations and in the proper description of their location.

An effort has been made to arrange the descriptions of location and character of landmarks in a uniform and logical manner. The descriptions start with the assumption that the individual seeking a landmark has only an indefinite idea of its location. They gradually proceed from description of the general locality of a landmark to the descriptions of its immediate surroundings. This is followed by specific details of the character of the center and reference marks and a "round" of reference angles and distances which in themselves frequently contain enough information to furnish an independent and reliable location of the triangulation station.

METHOD OF DESCRIBING TRIANGULATION STATIONS.

The separate descriptions of triangulation stations should not be used without reading the following explanation of the method of describing the triangulation stations, as it contains certain details that are common to all the landmarks described in this publication and which are omitted in the separate descriptions as being needless repetitions:

Name.—The title at the top of each separate description is the name by which the landmark or triangulation station is known and designated in all work and published oyster records or oyster charts of both the Government and State. The selection of the name is usually left to the triangulator establishing the station, and it may or may not have geographic or other significance in reference to the locality.

General locality.—Under this heading is given the general locality of the landmark in reference to well-known and prominent natural or artificial features, such as the nearest body of water, town, river, steamer wharf, well-defined point of land, church, or any other feature that is likely to remain both permanent and prominent.

This heading also covers a reference to the published chart or map which shows the location of the station most clearly. Nearly all the triangulation stations described in this publication are plainly indicated by name and a triangulation symbol on the published charts of oyster bars of Maryland. In this case they are referred to by serial number only, the words "charts of oyster bars of Maryland" being omitted to avoid needless repetition. These published oyster charts are on the large scale of 1 part in 20,000 (approximately $3\frac{1}{6}$ inches to a statute mile) and show the location of the triangulation stations so clearly that in many cases the written descriptions will not be required to find them.

Immediate locality.—Under this heading is given the description of the "observed station" in reference to its immediate surroundings. This is supposed to include a statement of the station's estimated elevation above high water or some other well-defined level of the locality, such as a road or house; the character of the ground on which it is located, such as marsh land, sand beach, cultivated field, or meadow; estimated bearings in points of the compass and estimated distances in yards *from* (*not to*) easily recognized features, such as extreme end of point, edge of bluff, bank of creek, line of telephone poles, shore line, barn, house, fence, ditch, trees, or any other definite detail, such as being on range with the tangent of an island and a church; and so forth.

When a standard monument has been established near the station as a "reference station," this heading also covers a statement of the true bearing of the monument in degrees and minutes and its measured distance in meters, as it is the first object that is likely to catch the eye when the immediate vicinity of the desired station is reached and might be mistaken for the center mark of the "observed station" unless special attention is called to it.

The distinction between the "observed station" and "reference station" should be carefully noted by anyone making use of the description of stations for any future surveying operations.

The "observed station" is located at the particular triangulation point covered by the description of stations, and is the one whose geographic position is first computed, as it is the point which was "occupied" and "observed on" for horizontal angles. However, in spite of the primary importance of the location of the "observed station," it will be noted from the description of stations that frequently it is not marked as well as the "reference station," and in many instances has only a pine stub to indicate its position. This is the case for the reason that the necessity of intervisibility of landmarks usually made it compulsory to locate "observed stations" on edges of banks and ends of points of land, which in the tide-water section of Maryland generally means they will be washed away in a short period of years. The past experience of the Coast and Geodetic Survey in this region has shown the great need of "reference stations," if the frequent reestablishment of a new framework of triangulation is to be avoided.

The chief reason and need for the establishment of the "reference station," or secondary station, as it might be well named, is explained in the preceding paragraph, but in several instances other reasons, such as the location of the "observed station"

on an unstable sand dune, in a cultivated field, in front of a residence, or other places objectionable to the landowner, have led to establishment of "reference stations." The location of the "reference station" in relation to the "observed station" is fixed for plotting on charts or for computation of its geographic position by checked measurements of its distances and azimuth from the "observed station."[a]

Marks.—Under this heading is given a description of the character of the permanent monuments or other marks of the location of the "observed station," and of the "reference station" where one has been established.

All the marks designated in the descriptions as "the center point of triangle on standard cement monument" are exactly alike. These monuments are made of cement, sand, and gravel, and are 2 feet long and 8 inches square at top and bottom. Their tops are all marked with the same brass mold and show a center hole surrounded by a triangle, with the letters "M. S. F. C." arranged around the vertex and the letters "U. S. C. S." underneath the base of the triangle. The center hole is always in the center of the top of the monument by construction, and if this is found to have been broken off without disturbing the bottom the center of its square section can be used as the location of the station.

All the "standard cement monuments," whether used for marking the "observed station" or "reference station," have been planted upright in exactly the same manner, with their tops projecting 3 or 4 inches above the surface of the ground, unless otherwise stated.

Therefore, as the above facts in reference to the "standard cement monuments" are a constant element in all cases, the repetition of these facts in the description of stations is made needless by this one statement.

References.—Under this heading are given the "rounds" of directions and distances to all objects that might be useful in locating the stations when the surface marks can not be found. It is also contemplated that for general purposes of topography, hydrography, or location of boundaries of oyster bars these references will be sufficient in many cases to relocate the position of an "observed station" or "reference station" when both of them have been destroyed.

The first reference object given in the descriptions is always a triangulation station visible from the station being described, this, if possible, being a light-house, church spire, or other permanent and prominent point. Its direction is taken as being 0° 00′ 00″, and the directions of all other objects are measured from it as an initial point, the angles being taken in a clockwise direction (left to right).

The true bearing[b] of the initial object is always given in parentheses alongside its name. This furnishes means for the calculation of the bearings of any of the other reference objects for the purposes of locating a station by horizontal angles or for the relocation of corner buoys of oyster-bar boundaries by the method of compass directions described in this publication under the heading of "Boundaries of oyster bars."

[a] Geographic coordinates (latitude, longitude, distance, and azimuth) relating to any of the "observed stations" or of the "reference stations" described in this publication can be obtained by application to the Superintendent of the Coast and Geodetic Survey, at Washington, D. C.

[b] The mean magnetic variation for Charles County was 5° 20′ west of north in 1910 and increasing at the rate of 4′ yearly.

The distances in the last column under "References" are given in three different units, which vary according to their accuracy. The "miles" are statute miles and may be considered only as rough estimates. The "yards" are more accurate, but must be looked on as results generally obtained by pacing or careful estimating. The "meters," however, are accurate to the degree indicated by their decimals and in every case have been measured with a steel tape. In the same manner the accuracy of the directions are indicated by the refinement of angular measure with which they are recorded.

DESCRIPTIONS OF TRIANGULATION STATIONS.

BARBER.

General locality.—Northeastern shore of Wicomico River about ¾ mile north-northeast of Stoddard Point. (See Chart No. 26.)

Immediate locality.—Observed station is on grass land about 2 feet above high-water mark, 3 yards north of shore, 20 yards west of trees which extend inland along creek, 4 yards southwest by west of a corner of a fence and 15 yards southeast of another corner of a fence.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Stoddard" (S 9° 46′ W)	0	00	00	1⅛ miles.
Left chimney of Stoddard house	3	27	..	1⅛ miles.
Near peak of roof between two chimneys	45	15	..	1½ miles.
Chimney on left end of small house	62	54	..	1½ miles.
Nail in blaze in top fence rail	136	06	..	10.62 meters.
Nail in blaze in cedar tree (5 inches diameter)	155	29	..	10.75 meters.
Nail in blaze in top of chestnut fence post	245	24	..	3.43 meters.
Nail in blaze in persimmon tree (5 inches diameter)	259	16	..	13.94 meters.
Tangent of point	299	13	..	¼ mile.
Near large chimney of negro quarters	302	07	..	1⅛ miles.

UPPER.

General locality.—Southwestern shore of Wicomico River on Stoddard Point (upper point) about 2¼ miles north-northwest of Mills Point. (See Chart No. 26.)

Immediate locality.—Observed station is on a long narrow point about 2 feet above high-water mark, 5 yards south of side of point, 8 yards northwest of side of point, 38 yards west of high-water mark on middle of point and 138 yards west by north of high-water mark on extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Stoddard" (S 27° 38′ E)	0	00	00	½ mile.
Right chimney of Stoddard house	9	12	..	½ mile.
Left peak of roof of barn	33	02	..	½ mile.
Left chimney of old house	49	20	..	½ mile.
Tangent of next point	141	07	..	⅝ mile.
Right chimney of house on ridge	179	15	..	3 miles.
Chimney outside small house on opposite shore	213	28	..	1¼ miles.
Near corner post of piazza of large house	247	47	..	1⅜ miles.
Chimney top of Key house	296	04	..	1½ miles.

KEY.

General locality.—Northeastern shore of Wicomico River on a high bluff about 1 mile north of Cohouck Point. (See Chart No. 26.)

Immediate locality.—Observed station is about 30 feet above high-water mark in an orchard, about 24 yards northeast of edge of bank, 49 yards north of edge of bank, 15 yards east of edge of bank, 130 yards south-southwest of negro quarters and 130 yards west of fence which incloses an orchard.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Stoddard" (S 70° 48′ W)	0	00	00	1⅛ miles.
Near corner of near chimney on Stoddard house	0	29	..	1¼ miles.
Near corner of near chimney of small house	15	05	..	1⅜ miles.
Peak of roof between two chimneys on house	17	13	..	2 miles.
Peak of roof of very large barn	56	52	..	3 miles.
Chimney on middle of roof on two-story house	62	06	..	3 miles.
Near corner of near chimney of negro's quarters	116	54	..	130 yards.
Nail in blaze in apple tree (12 inches diameter)	135	58	..	22.15 meters.
Chimney of Key house	164	37		¼ mile.
Nail in blaze in apple tree (14 inches diameter)	168	57	..	13.39 meters.
Peak of roof of large barn	259	16	..	½ mile.
Nail in blaze in apple tree (12 inches diameter)	281	25	..	7.94 meters.
Peak of roof of house on piles	347	23	..	1⅜ miles.
Between two chimneys of large brick house on hill	357	45	..	2½ miles.

STODDARD.

General locality.—Western shore of Wicomico River about ½ mile south-southeast of Stoddard Point and 1 mile west-northwest of Cohouck Point. (See Chart No. 26.)

Immediate locality.—Observed station is on gravel, grass, and shell point, near a lone gum tree, about 2 feet above high-water mark, 6 yards south-southwest of side of point, 6 yards north of side of point, 10 yards west of extreme end of point and 158 yards east-northeast of Stoddard house.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Upper" (N 26° 37′ W)	0	00	00	½ mile.
Outside chimney of small house	23	08	..	1½ miles.
Peak of front gable of large house on ridge	52	54	..	1⅞ miles.
Chimney on top of Key house	94	47	..	1½ miles.
Chimney outside of two and a half story house	153	58	..	2⅜ miles.
Right chimney of large house	172	38	..	2 miles.
Peak of roof of house on Chaptico Wharf	180	19	..	2⅝ miles.
Chimney top of house on piles	228	37	..	½ mile.
Near corner of chimney on Stoddard house	284	44	..	158 yards.
Nail in blaze in pear tree (24 inches diameter)	315	29	..	4.58 meters.
Nail in blaze in pear tree (4 inches diameter)	349	47	..	9.41 meters.

COHOUCK.

General locality.—Eastern shore of Wicomico River on Cohouck Point on the northern side of entrance to Chaptico Bay. (See Chart No. 26.)

Immediate locality.—Observed station is on Cohouck Point, about 6 feet above high-water mark, 12 yards east of edge of bank, 35 yards south of edge of bank, 85 yards northeast of extreme point and about 25 yards north of marsh.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Key" (N 3° 29′ E)	0	00	00	⅞ mile.
Nearest chimney on negro quarters	0	27	..	1 mile.
Near peak of roof of barn	26	38	..	1 mile.
Chimney outside near end of two and a half story house	128	58	..	¾ mile.
Right chimney of Lyon house near Mills Point	171	29	..	1⅛ miles.
Chimney on flat roof house near mouth of Bowmans Creek	226	56	..	2 miles.
Chimney on far end of house	261	43	..	1⅜ miles.
Chimney on house on piles	270	53	..	1⅛ miles.
Peak of front gable of house on ridge	352	51	..	2¼ miles.

HAYDEN.

General locality.—Western shore of the Wicomico River about 1⅛ miles west of Cohouck Point. (See Chart No. 26.)

Immediate locality.—Observed station is surrounded by water bushes on marshy land, about 1 foot above high water, 5 yards northwest of shore and 17 yards southeast of line of trees on top of bank. Cement monument marking reference station is 11.50 meters N 54° 34′ W of observed station.

Marks.—Observed station is nail in stub with top 3 inches above ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Fact" (S 41° 35′ E)	0	00	00	1⅜ miles.
Between two main chimneys of large house below Chaptico Wharf	5	11	..	2⅜ miles.
West roof peak of house on Chaptico Wharf	6	51	..	2¼ miles.
Chimney on middle of square house	65	06	..	⅝ mile.
Nail in blaze in cedar tree (18 inches diameter)	124	14	..	23.45 meters.
Nail in blaze in locust tree (8 inches diameter)	155	23	..	16.55 meters.
REFERENCE STATION	167	01	20	11.51 meters.
Nail in blaze in oak tree (8 inches diameter)	213	29	..	18.74 meters.
Chimney on Key house	275	45	..	1¾ miles.
Chimney of Maddox house	344	28	..	3¼ miles.
Right chimney outside of old house	354	31	..	1⅝ miles.

PERRY.

General locality.—Southeastern shore of Chaptico Bay, about 1 mile northeast of Mills Point and ⅝ mile southeast of Cohouck Point. (See Chart No. 26.)

Immediate locality.—Observed station is in an open field, about 20 feet above high-water mark, 8 yards northwest of edge of bank, 9 yards south-southwest from edge of gully in bank, 5 yards south of edge of bank of gully, and about 150 yards north-northeast of creek.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Fact" (S 51° 10′ W)	0	00	00	1 mile.
Chimney on right end of house	5	41	..	2⅜ miles.
Chimney on flat-roof house	15	03	..	2½ miles.
Left chimney of Crane house	31	37	..	3⅝ miles.
Nail in blaze in locust tree (3 inches diameter)	42	34	..	10.49 meters.
Nearest chimney on larger part of double brick house	42	50	..	3⅝ miles.
Left chimney of house on piles	55	28	..	1¾ miles.
Near peak of roof on house	62	53	..	2 miles.
Near corner of near chimney of Stoddard house	66	59	..	2 miles.
Nail in blaze in locust tree (3 inches diameter)	81	40	..	8.44 meters.
Peak of front gable of house on ridge	113	51	..	3 to 4 miles.
Nail in blaze in locust tree (8 inches diameter)	136	40	..	5.95 meters.
Near chimney of large house on ridge	169	08	..	1⅝ miles.
Chimney outside of two-and-a-half-story house	289	15	..	150 yards.

BURR.

General locality.—Western shore of Wicomico River directly opposite mouth of Chaptico Bay and ¾ mile north of Bowmans Creek. (See Chart No. 26.)

Immediate locality.—Observed station is on hard ground between a sloping bank 10 feet high covered with trees and a marshy shore, about 2 feet above high-water mark, 18 yards northwest of extreme point, 23 yards north of shore, 17 yards southwest of shore, and 9 yards southeast of bottom of bank.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Fact" (S 65° 59′ E)	0	00	00	1¼ miles.
Between two chimneys of large house on ridge	16	39	..	4¾ miles.
West end of peak of roof of house on Chaptico Wharf	17	15	..	2⅛ miles.
Right chimney of two-and-a-half-story house	72	21	..	1¼ miles.
Chimney in middle of large house	88	21	..	1⅛ miles.
Nail in blaze in persimmon tree (11 inches diameter)	97	25	..	7.67 meters.
Nail in blaze in persimmon tree (9 inches diameter)	192	56	..	2.60 meters.
Nail in blaze in persimmon tree (10 inches diameter)	236	32	..	3.86 meters.
Main chimney of Key house	293	03	..	2¼ miles.
Chimney on Maddox house	358	28	..	3⅜ miles.

FACT.

General locality.—Eastern shore of Wicomico River on Mills Point on south side of mouth of Chaptico Bay. (See Chart No. 26.)

Immediate locality.—Observed station is on a long point covered on the southern side with gum and cedar trees, about 10 feet above high-water mark, 23 yards from extreme end of top of bank, 6 yards north of edge of bank, and 8 yards southeast of edge of bank.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Cobb Point Bar Light" (S 7° 13′ E)	0	00	00	6½ miles.
Nail in blaze in cedar tree (7 inches diameter)	5	07	..	6.20 meters.
Nail in blaze in oak tree (28 inches diameter)	56	16	..	6.37 meters.
Chimney on ell end of Stoddard house	157	08	..	1⅞ miles.
Chimney on Key house	199	54	..	2⅛ miles.
Near peak of roof of large house	274	25	..	¼ mile.
Nail in blaze in cedar tree (6 inches diameter)	301	45	..	16.26 meters.
Near chimney of large house near shore	317	53	..	⅝ mile.
West end of peak of house on Chaptico Wharf	342	53	..	⅞ mile.

BOWMAN.

General locality.—Western shore of Wicomico River at northeast side of mouth of Bowmans Creek and 1½ miles west by south of Mills Point. (See Chart No. 26.)

Immediate locality.—Observed station is surrounded by water bushes on point of land about 1½ feet above high water, 14 yards east of high-water mark, 16 yards north of extreme end of point, 20 yards northeast of side of point, 20 yards south of several cedar trees, and about 150 yards south of a house.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Sacred Heart Church Spire" (S 62° 50′ E)	0	00	00	4⅝ miles.
Chimney on end of long house	10	37	..	3¼ miles.
Chimney of Lyon house	13	56	..	3¼ miles.
Nail in blaze in cedar tree (7 inches diameter)	59	04	40	8.88 meters.
Chimney on square house	76	25	..	¼ mile.
Crane house	168	10	..	2 miles.
Nail in blaze in cedar tree (6 inches diameter)	216	10	00	18.37 meters.
Nail in blaze in cedar tree (7 inches diameter)	232	40	30	17.58 meters.
Chimney on near end of house	263	40	..	½ mile.
Peak of roof between two chimneys	357	27	..	2¼ miles.

EEDLING.

General locality.—Western shore of Wicomico River about 1¼ miles southwest of Mills Point and about 1 mile southeast of mouth of Bowmans Creek. (See Chart No. 26.)

Immediate locality.—Observed station is in a shell-covered cultivated field, about 10 feet above high-water mark, 37 yards southwest of shell and gravel beach, 88 yards west-northwest of extreme end of point, and 79 yards north of a ditch in marsh. Cement monument marking reference station is 23.99 meters N 89° 56′ W of observed station.

Marks.—Observed and reference stations are marked by the center point of the triangles on standard cement monuments.

References.—

	°	′	″		
"Fact" (S 39° 15′ W)	0	00	00	.....	1¼ miles.
Nail in blaze in gum tree (20 inches diameter)	2	07	50	.....	26.06 meters.
Near peak of roof of house on Chaptico Wharf	42	05	..	.....	1⅜ miles.
Chimney outside near end of house on hill	44	24	..	.....	2⅝ miles.
Nail in blaze in cedar tree (3 inches diameter)	49	54	40	.....	25.75 meters.
REFERENCE STATION	50	48	55	.....	23.99 meters.
Chimney on right of ell of a house	60	12	..	.....	2 miles.
Near peak of roof of Eedling house	265	55	..	.....	⅜ mile.
Nail in blaze in oak tree (24 inches diameter)	331	27	40	.....	33.99 meters.

FARR.

General locality.—Eastern shore of Wicomico River about 1¼ miles south-southeast of Mills Point and ¼ mile north of the mouth of Manahowick Creek. (See Chart No. 26.)

Immediate locality.—Observed station is about 10 feet above high-water mark, 5 yards east by south of edge of bank, 32 yards north-northwest of several pine trees at fish shanty near edge of bank, 22 yards south by east of other trees, and 300 yards west by north of a large house.

Marks.—Observed station is center point of triangle on standard cement monument buried 16 inches below surface of ground with nail in stub at surface.

References.—

	°	′	″		
"Cobb Point Bar Light" (S 2° 35′ E)	0	00	00	.....	5¼ miles.
"Rock Point Catholic Church Cross"	8	03	40	.....	3¼ miles.
Chimney on left side of house	42	41	..	.....	1¾ miles.
Left chimney of Crane house	113	40	..	.....	4½ miles.
Left peak of house on Chaptico Wharf	153	08	..	.....	½ mile.
Left chimney of house on Mills Point farm	168	34	..	.....	1¼ miles.
Right chimney on Maddox house	242	28	..	.....	2 miles.
Right corner of large house	292	33	..	.....	¼ mile.
Near corner of fish shanty	338	27	..	.....	23.69 meters.

GUST.

General locality.—Western shore of Wicomico River on Windmill Point about ¾ mile north of the mouth of Hedneys Creek and opposite mouth of Manahowic Creek. (See Chart No. 26.)

Immediate locality.—Observed station is on shell and gravel point, bordered by persimmon and cedar trees, about 2 feet above high-water mark, 12 yards northwest of shore, 16 yards south of shore, and 28 yards west-southwest of shore on extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Fact" (N 20° 09′ E)	0	00	00	.....	1¼ miles.
Nail in blaze in persimmon tree (8 inches diameter)	6	22	..	.....	7.95 meters.
Near peak of roof of house on Chaptico Wharf	35	32	..	.....	1¾ miles.
Chimney on left side of large house	58	18	..	.....	1⅜ miles.
Chimney on middle of Lyon house	101	24	..	.....	1¾ miles.
Near peak of roof of house with two chimneys	171	43	..	.....	⅝ mile.
Nail in blaze in cedar tree (4 inches diameter)	204	14	00	.....	5.90 meters.
Nail in blaze in cedar tree (10 inches diameter)	301	03	10	.....	16.18 meters.

LYON.

General locality.—Eastern shore of Wicomico River on a point about ¼ mile north of Bramleigh Creek and 2 miles north by east of Rock Point. (See Chart No. 26.)

Immediate locality.—Observed station is on a point of land between the Lyon residence and edge of bank, 100 yards north of small pond which is fringed on river side with cedar trees, about 4 yards north of a bird house on a post, 19 yards east-northeast of most prominent point of bank, 15 yards east-southeast of side of bank, 16 yards north-northeast of another side, and 12 yards south-southwest of a fence.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Weiss" (S 25° 47′ E)	0	00	00	.....	1¼ miles.
Nail in blaze in cedar post of bird house support	51	15	20	.....	3.67 meters.
Nail in blaze in pear tree (6 inches diameter)	58	00	50	.....	11.74 meters.
Chimney of house	129	14	..	.....	1⅝ miles.
Left chimney of Crane house	148	52	..	.....	5¼ miles.
Between two chimneys of large brick house	159	59	..	.....	3½ miles.
Near peak of roof between two chimneys of large house	171	56	..	.....	3¾ miles.
West end of peak of roof of house on Chaptico Wharf	186	23	..	.....	1¾ miles.
Corner of fence	198	08			14.15 meters.
Near corner of house	247	11			22.01 meters.
Right corner of small house	295	38	..	.....	24.59 meters.
Nail in blaze in locust tree (4 inches diameter)	302	02	10	.....	8.82 meters.
Right corner of shed	336	36			14.98 meters.

SACRED HEART CHURCH SPIRE (BUSHWOOD).

General locality.—Easterly side of Wicomico River on high land about 1½ miles inland, north by east of Bushwood Wharf. (See Chart No. 26.)

Immediate locality.—Observed station is steeple of Sacred Heart Church near Bushwood.

Marks.—Observed station is center of cross on steeple.

References.—None necessary.

HEDNEY.

General locality.—Western shore of Wicomico River on first point above mouth of Charleston Creek and about 1¾ miles northwest of White Point. (See Chart No. 26.)

Immediate locality.—Observed station is about 25 feet above high-water mark, 16 yards west-southwest of edge of bank, 139 yards north of large tree at edge of bank, 85 yards north of oak tree at edge of bank, 155 yards east-northeast of gum tree 20 inches diameter on bank of a pond, and about ⅛ mile east-southeast of a house among trees.

Marks.—Observed station is center point of triangle on standard cement monument with top buried 12 inches below the surface of the ground. Surface mark is nail in stub with top 5 inches above surface of ground.

References.—

	°	′	″		
"Sacred Heart Church Spire" (N 86° 31′ E)	0	00	00	.....	4½ miles.
Near corner of nearest chimney of four on a large house on hill	7	11	..	.....	4½ miles.
Right chimney of a large house	13	03	..	.....	2 miles.
Middle of island at end of White Point Bar	38	45	..	.....	1⅞ miles.
Nail in blaze in oak tree (48 inches diameter)	50	28	00	.....	73.16 meters.
Nail in blaze in walnut tree (36 inches diameter)	84	52	30	.....	115.63 meters.
Middle of gum tree	147	46	30	.....	138.47 meters.
Near peak of roof between two chimneys	239	48	..	.....	¾ mile.
Near chimney on large house	312	19	..	.....	1⅝ miles.
Chimney of Lyon house	352	40	..	.....	1⅛ miles.

CHARLES.

General locality.—Western shore of Wicomico River on first point south of entrance to Charleston Creek, and 1¼ miles north of Rock Point. (See Chart No. 26.)

Immediate locality.—Observed station is on a small marshy point about 6 inches above high-water mark and 18 yards east of pine woods on a bank 10 feet above high water. Cement monument marking reference station is 15.56 meters N 57° 10′ W of observed station.

Marks.—Observed station is nail in stub with top 2 inches above ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Hard" (S 17° 38′ E)	0	00	00	1¼ miles.
Nail in blaze in pine tree (10 inches diameter)	47	51	..	28.46 meters.
Nail in blaze in pine tree (12 inches diameter)	84	58	..	16.66 meters.
Nail in blaze in pine tree (7 inches diameter)	134	22	..	16.87 meters.
REFERENCE STATION	138	28	10	15.56 meters.
West chimney on two-story house	265	53	..	1¼ miles.
"Sacred Heart Church Spire (Bushwood)"	268	03	50	2¾ miles.
West chimney on Garner house	293	51	..	1¾ miles.
West gable of house on Bushwood Wharf	300	07	..	2 miles.

WEISS.

General locality.—Eastern shore of Wicomico River on White Point, about 3 miles north by east of Cobb Point Bar Light. (See Chart No. 26.)

Immediate locality.—Observed station is on a bluff near small cedar trees, about 8 feet above high-water mark, 13 yards north of and 27 yards south of edges of bluff and 52 yards east of extreme point.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Cobb Point Bar Light" (S 11° 43′ W)	0	00	00	3⅛ miles.
Flagstaff on schoolhouse	40	41	20	1⅝ miles.
Nail in blaze in cedar tree (10 inches diameter)	54	03	10	42.29 meters.
Left chimney on two-story house	155	26	..	¾ mile.
Nail in blaze in poplar tree (3 inches diameter)	181	46	..	6.24 meters.
"Sacred Heart Church Spire"	216	56	30	1¾ miles.
West chimney of Garner house	260	27	..	⅝ mile.
Nail in blaze in poplar tree (4 inches diameter)	266	27	50	37.80 meters.
West gable of house on Bushwood Wharf	284	26	..	⅝ mile.
Left chimney on two-story house	342	10	..	2⅛ miles.

BLAKISTONE.

General locality.—Eastern shore of Wicomico River, about ¼ mile southeast of Plowdens Wharf at Bushwood, and about 3 miles north-northeast of Cobb Point Bar Light. (See Chart No. 26.)

Immediate locality.—Observed station is on second bluff southeast of Bushwood Wharf, 15 feet above high-water mark, 15 yards southeast of a large dogwood tree, about 6 yards northeast of edge of bluff, 3 yards southwest of rail fence, about 15 yards southwest of an ice house near orchard, and 5 to 10 yards south to east of several small cedar trees.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Prec" (S 18° 42′ W)	0	00	00	2 miles.
"Rock Point Catholic Church Cross"	51	28	30	2 miles.
Left peak of roof of wharf house	94	16	..	1⅞ miles.
Large tree	117	48	..	13.36 meters.
Chimney of Blakistone store	125	48	..	¼ mile.
Near peak of roof of Blakistone house	176	32	..	250 yards.
Point of cupola on Ranahan house	191	45	..	1¾ miles.
Near left corner of sill of ice house	233	15	..	14.15 meters.
Right lower corner	260	33	..	15.76 meters.
Near peak of roof	312	54	..	¼ mile.

HARD.

General locality.—Western shore of Wicomico River on point of land known as Rock Point about 2 miles north by west of Cobb Point Bar Light. (See Chart No. 26.)

Immediate locality.—Observed station is on low point of land near several small cedar trees about 1 foot above high-water mark, 47 yards west of shore, 16 yards south of shore, 30 yards north of shore, about 80 yards northeast by north of Rock Point Wharf, and 170 yards northeast by east of Lancasters store.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Cobb Point Bar Light" (S 10° 17′ E)	0	00	00	2 miles.
Northeast gable of wharf house	41	07	..	80 yards.
"Rock Point Catholic Church Cross"	70	16	20	¼ mile.
South chimney on Lancaster store	88	53	..	170 yards.
Point of east gable on house	134	44	..	¼ mile.
"Sacred Heart Church Spire"	239	04	20	3 miles.
Gable of house on wharf at Bushwood	256	00	..	1¾ miles.
West gable of house	293	06	..	2 miles.
West gable on one-story house	315	19	..	2¼ miles.
North chimney of two-story house	330	12	..	2½ miles.

ROCK POINT CATHOLIC CHURCH CROSS.

General locality.—Eastern shore of Wicomico River at Rock Point. (See Chart No. 26.)

Immediate locality.—Observed station is in settlement called Rock Point. It is on the larger of two similar buildings, the smaller one being the schoolhouse.

Marks.—Observed station is center point of cross on Rock Point Catholic Church.

References.—None necessary.

PREC.

General locality.—Eastern shore of Wicomico River on Bluff Point about 2 miles north-northeast of Cobb Point Bar Light. (See Chart No. 26.)

Immediate locality.—Observed station is about 10 feet above high-water mark, 34 yards southeast of nearest end of neck of Bluff Point, 29 yards south-southeast of shore, 16 yards northeast of shore, and 88 yards west by southwest of house.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Cobb Point Bar Light" (S 28° 37′ W)	0	00	00	2 miles.
Tangent of woods on Cobb Point	34	04	..	2 miles.
"Rock Point Catholic Church Cross"	70	16	30	1⅝ miles.
Nail in blaze in locust tree (3 inches diameter)	116	14	40	20.64 meters.
Left chimney of Garner house	148	42	..	1⅛ miles.
Nail in blaze in left one of twin locust trees (12 inches diameter)	153	38	20	30.36 meters.
"Sacred Heart Church Spire"	172	15	10	2¾ miles.
Near chimney of Sherrer house	228	37	..	88 yards.
Nail in blaze in poplar tree (6 inches diameter)	243	01	50	33.74 meters.
Nail in blaze in poplar tree (5 inches diameter)	282	00	40	27.71 meters.
Left chimney of cottage	298	22	..	⅛ mile.
Right chimney of Bailey house on St. Margarets Island	330	25	..	1 1/2 miles.

CORNER.

General locality.—Western shore of Wicomico River on the eastern side of an island known as Cobb Point Neck about halfway between Cobb Point and the entrance to Neales Sound. (See Chart No. 26.)

Immediate locality.—Observed station is in a cultivated field on a bluff bordered with pine trees about 15 feet above high-water mark, 3 yards west of a wire fence running along edge of bluff and 21 yards east-northeast of a wire fence which separates cornfield from pine woods.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Cobb Point Bar Light" (S 29° 39′ E)	0	00	00	1⅝ miles.
Nail in blaze in cedar tree (3 inches diameter)	50	02	..	16.98 meters.
Nail in blaze in pine tree (8 inches diameter)	111	43	..	21.41 meters.
Nail in blaze in pine tree (12 inches diameter)	135	20	..	33.22 meters.
Middle chimney of house	177	07	..	¼ mile.
"Catholic Church Cross"	217	16	10	⅞ mile.
Left chimney of house on St. Margarets Island	318	56	..	1⅝ miles.

ST. MARGARET 2.

General locality.—Northwestern side of Potomac River on the southwestern side of St. Margarets Island in the mouth of the Wicomico River about 1 mile northeast of Cobb Point Bar Light. (See Chart No. 26.)

Immediate locality.—Observed station is on a bluff about 12 feet above high-water mark, 15 inches northeast of edge of bluff, 86 yards northwest of cow shed, 129 yards south-southwest of several houses and 154 yards west-southwest of Bailey (large) house. Cement monument marking reference station is 79.19 meters N 46° 26′ E of observed station and at corner of cow shed.

Marks.—Observed station is center of a stub in a 2½-inch tile pipe set in cement with top flush with ground. Reference station is center point of triangle of standard cement monument.

References.—

	°	′	″	
"Cobb Point Bar Light" (S 53° 22′ W)	0	00	00	1 mile.
Tangent of Cobb Point	45	13	..	1⅝ miles.
"Rock Point Catholic Church Cross"	83	42	50	1⅞ miles.
Chimney on left of Garner new house	129	40	..	2⅜ miles.
"Sacred Heart Church Spire"	143	27	50	4 miles.
REFERENCE STATION	173	04	15	79.19 meters.
Left chimney of Bailey house	194	51	..	150 yards.
Nearest chimney of small house on Bullock Island	220	26	..	1 mile.
Left chimney of small house on St. Catherine Island	258	32	..	1¼ miles.

COBB POINT BAR LIGHT.

General locality.—Northerly side of Potomac River at mouth of Wicomico River on the southeastern extremity of Cobb Point Bar. (See Chart No. 26.)

Immediate locality.—Observed station is on the end of Cobb Point Bar at the mouth of the Wicomico River.

Marks.—Observed station is center point of black lantern on screw pile structure known as "Cobb Point Bar Light."

References.—

	°	′	″	
"Blakiston Island Light" (S 61° 25′ E)	0	00	00	5 miles.

RIVER SPRINGS CATHOLIC CHAPEL CROSS.

General locality.—Northern side of Potomac River inland about ¾ mile north by west of River Springs. (See Chart No. 26.)

Immediate locality.—Observed station is on building known as River Springs Catholic Chapel.

Marks.—Observed station is center of cross on River Springs Catholic Chapel.

References.—None necessary.

SOUND.

General locality.—Northern shore of St. Catherine Sound about 2¼ miles east by north of Cobb Point Bar Light and ¼ mile east of Bullock Island. (See Chart No. 26.)

Immediate locality.—Observed station is about 15 feet above high-water mark, 35 yards north of edge of bank, 2 yards east of wire fence, 65 yards east of edge of bank, 57 yards south of southeast corner of fence of house yard, and 63 yards south by west of telephone pole line which is on the same side of the road.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Cobb Point Bar Light" (S 84° 53′ W)	0	00	00	.....	2¼ miles.
Right chimney of house on Bullock Island	8	24	..	.....	½ mile.
Near end of small chimney on large house	27	15	..	.....	1 mile.
Left corner post of fence	65	05	..	.....	Near.
Near corner of chimney of small house	86	25	..	.....	Near.
Near corner post of fence	100	58	..	.....	Near.
Right peak of roof of barn	115	20	..	.....	Near.
"River Springs Catholic Chapel Cross"	148	31	10	.....	1 mile.
Chimney of Blakistone store	189	16	..	.....	½ mile.
Near chimney of Bailey house	217	59	..	.....	½ mile.
Chimney on smaller house on St. Catherine Island	323	03	..	.....	¾ mile.

BAILEY.

General locality.—Northeastern shore of St. Catherine Sound, about ¾ mile east by north of eastern end of St. Catherine Island and 1 mile north of the Potomac River. (See Chart No. 26.)

Immediate locality.—Observed station is on shelly ground on Bailey property, about 5 feet above high-water mark, 10 yards northeast of high-water mark, 7 yards northeast of a wire fence, 35 yards south-southeast of corner of wire fence, 30 yards north-northwest of corner of wire and wooden fences, 25 yards north of Bailey house, and 40 yards west by south of corner of wooden fence.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Cobb Point Bar Light" (N 88° 11′ W)	0	00	00	.....	2⅝ miles.
Nail in blaze in one of four cedar trees (3 inches diameter)	13	29	..	.....	12.37 meters.
Nail in blaze in cedar tree (8 inches diameter)	44	59	..	.....	27.82 meters.
Corner of wire fence	46	29	..	.....	32.06 meters.
Chimney on house	90	38	..	.....	150 yards.
"River Springs Catholic Chapel Cross"	113	06	00	.....	1 mile.
Corner of wooden fence	175	52	..	.....	37.49 meters.
Chimney of Bailey house	203	26	..	.....	25 yards.
Junction of wire and wooden fences	254	35	..	.....	26.22 meters.
Left chimney of house on Waterloo Point	277	43	..	.....	¾ mile.
Nail in blaze in first of six cedar trees	297	27	..	.....	10.76 meters.
Right chimney of small house on St. Catherine Island	348	02	..	.....	1 mile.

ST. CATHERINE.

General locality.—Southern shore of St. Catherine Sound, on the northern side of St. Catherine Island. (See Chart No. 26.)

Immediate locality.—Observed station is about 12 feet above high-water mark, 86 yards south of edge of bank, 49 yards west of line of young cedar trees, 198 yards northeast of a lone mulberry tree 3 feet in diameter, and 207 yards southeast of small house among trees.

Marks.—Observed station is center point of triangle on standard cement monument with top 12 inches below the surface.

References.—

	°	′	″	
"Cobb Point Bar Light" (N 81° 08′ W)	0	00	00	1⅞ miles.
Right side of right chimney on small house	13	04	..	207 yards.
Left chimney of large house on St. Margarets Island	34	42	..	1⅜ miles.
Right chimney of house on Bullock Island	66	01	..	½ mile.
Chimney of Blackistone house	117	39	..	⅝ mile.
"River Springs Catholic Chapel Cross"	129	17	40	1⅝ miles.
Left chimney of Bailey house	158	19	..	⅞ mile.
Right chimney of Young house on Waterloo Point	207	48	..	⅞ mile.

WATERLOO.

General locality.—Southeastern shore of St. Catherine Sound, about ¾ mile east-southeast of St. Catherine Island and about ¼ mile north of Potomac River. (See Chart No. 26.)

Immediate locality.—Observed station is at top of rise in field, about 8 feet above high-water mark, 48 yards east by south of shore at a point where several mulberry trees stand, 43 yards south of large sugarberry tree, 19 yards south by east of wire-fence post, and 200 yards north of Young house on Waterloo Farm.

Marks.—Observed station is center point of triangle on standard cement monument, with top 12 inches below surface of ground.

References.—

	°	′	″	
"Sound" (N 18° 41′ W)	0	00	00	1 mile.
Near end of peak of Blackistone barn	3	02	..	1 mile.
"Sacred Heart Church Spire (Bushwood)"	10	37	20	5 miles.
Peak of gable of Blackistone house at River Springs	21	54	..	⅞ mile.
Near peak of roof of Bailey house	31	01	..	¾ mile.
Near peak of roof of Yates house	49	13	..	½ mile.
Near peak of roof of Quaid house	71	25	..	¼ mile.
Near peak of house	92	31	..	½ mile.
Nail in blaze in apple tree (5 inches diameter)	111	20	30	34.78 meters.
Nail in blaze 8-inch branch on apple tree (14 inches diameter)	153	34	20	24.90 meters.
Nail in blaze in apple tree (6 inches diameter)	203	50	00	26.18 meters.
Near peak of roof of Young house	206	57	..	200 yards.
Left tangent of St. Catherine Island	300	21	..	¾ mile.
Right chimney of roof of house on Bullock Island	337	19	..	1⅜ miles.
Near peak of roof of house	352	57	..	1¾ miles.

PRINCE.

General locality.—Western shore of Patuxent River, about ¼ mile north of mouth of Swanson Creek. (See Chart No. 26.)

Immediate locality.—Observed station is in pasture about 20 feet above high water, 15 yards northwest of edge of bank, 75 yards northeast of a grove of trees, and 100 yards southwest of another grove of trees. Locust trees form a fringe along edge of bank.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Leitch" (S 83° 01′ E)	0	00	00	.....	¾ mile.
Square chimney on house	0	02	..	.....	¾ mile.
Chimney on store at Buena Vista	19	15	..	.....	1¾ miles.
Chimney of Dr. Huggins house at Buena Vista	21	07	..	.....	1¾ miles.
Nearest chimney on Gourley house on Hallowing Point	55	16	..	.....	2½ miles.
Nail in blaze in locust tree (3 inches diameter)	79	38	30	.....	15.94 meters.
Nail in blaze in locust tree (4 inches diameter)	110	13	30	.....	14.55 meters.
Outside chimney on large house on hill	150	45	..	.....	¾ mile.
Near end of peak of roof	226	02	..	.....	¾ mile.
Middle of clump of trees	273	00	..	.....	100 yards.
Chimney of house	311	04	..	.....	1¾ miles.
Nail in blaze in crotch of locust tree (6 inches diameter)	350	39	10	.....	19.27 meters.

LEITCH.

General locality.—Eastern shore of Patuxent River, on prominent point opposite mouth of Swanson Creek, given on chart as Gods Grace Point, but known locally as Leitchs Point. (See Chart No. 26.)

Immediate locality.—Observed station is on sand and grass land about 1 foot above high water and 3 yards north of straight line connecting two round points. It is about 13 yards northwest of the lower of these two points and 9 yards east of upper point. A creek 3 feet wide has its mouth about 19 yards east by south of the station. There are no permanent objects near station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Prince" (N 83° 00′ W)	0	00	00	.....	¾ mile.
Near end of corner peak of roof of large house on hill	25	02	..	.....	1¾ miles.
Near end of peak of wharf-house roof	77	46	..	.....	¼ mile.
Right chimney of house	183	32	..	.....	⅛ mile.
Right chimney of Gourley house	253	58	..	.....	2 miles.
Canning-house stack	277	22	..	.....	2 miles.
"Catholic Church Cross"	281	35	30	.....	2 miles.
Chimney of small house	308	52	..	.....	1 mile.
Right outside chimney of old house	328	43	..	.....	1¼ miles.
Right outside chimney of old house	343	05	..	.....	1½ miles.

FODDER.

General locality.—Western shore of Patuxent River on the southern side of the mouth of Swanson Creek about 1 mile west-southwest of Leitch Wharf and ¾ mile west-northwest of Point Judith (locally known as Teague Point). (See Chart No. 26.)

Immediate locality.—Observed station is on the edge of cultivated land about 10 feet above high-water mark, 4 yards west of edge of bank, and 9 yards north of another edge. Cement monument marking reference station is 15.21 meters S 60° 52′ W of observed station.

Marks.—Observed station is center point of triangle on standard cement monument with a top 9 inches square and 8 inches above surface of ground. Reference station is center point of triangle on standard cement monument with a top about 8 inches square and 5 inches above surface ground.

References.—	°	′	″		
"Prince" (N 25° 00′ E)	0	00	00	.....	½ mile.
Near peak of large house on bluff	17	55	..	.....	2 miles.
Right corner of house	24	08	..	.....	1¾ miles.
Near peak of Leitch Wharf house	35	11	..	.....	1¼ miles.
Left peak of Leitch house	48	37	..	.....	1¼ miles.
Front peak of house at Buena Vista	75	00	..	.....	1¼ miles.
Chimney outside left end of house on hill	87	16	..	.....	2 miles.
Near peak of small house	101	33	..	.....	⅜ mile.
Large chimney on small house	174	43	..	.....	1 mile.
Left side of left chimney outside Bowling house	211	47	..	.....	¾ mile.
REFERENCE STATION	215	52	30	.....	15.21 meters.
Left corner of house on top of hill	318	27	..	.....	1 mile.

BUENA.

General locality.—Eastern shore of Patuxent River about 1¾ miles northeast of Benedict at place known as Buena Vista. (See Chart No. 26.)

Immediate locality.—Observed station is in a field on land adjoining house owned by S. V. Smith and occupied by Dr. Huggins. It is about 10 feet above high water, 8 yards east of edge of bank, and 12 yards south of a rail fence. Cement monument marking reference station is 11.11 meters N 5° 42′ E of observed station and near fence.

Marks.—Observed station is nail in stub with top 2 inches above ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Hallowing" (S 27° 22′ W)	0	00	00	.....	1½ miles.
Center of red roof on square house near Benedict	18	05	..	.....	2 miles.
Canning-house stack	21	30	..	.....	1¾ miles.
"Catholic Church Cross"	29	04	10	.....	1¾ miles.
Nail in blaze in locust tree (4 inches diameter)	31	48	40	.....	8.58 meters.
Left chimney of old house	66	15	..	.....	3 miles.
Left chimney of old house	72	52	..	.....	3 miles.
Nail in blaze on cherry tree (2 inches diameter)	99	05	..	.....	9.70 meters.
Peak of roof of large house	99	15	..	.....	4 miles.
Chimney of house near Leitch Wharf	108	52	..	.....	1 mile.
Nail in blaze on fence post	143	33	50	.....	11.18 meters.
REFERENCE STATION	158	20	20	.....	11.11 meters.
Near corner of house	159	44	..	.....	25 yards.
Cherry tree on fence line (15 inches diameter)	221	25	..	.....	35 yards.
Double apple tree (30 inches diameter)	290	54	..	.....	59 yards.

TEAGUE.

General locality.—Western shore of Patuxent River on point on southern side of entrance to Swanson Creek, locally known as Teague Point, and given on chart as Point Judith. (See Chart No. 26.)

Immediate locality.—Observed station is on gravel and grass land about 3 feet above high water, about 11 yards from south side, 16 yards from north-northeast side, and 75 yards west by north of extreme end of point. Bushes stand between station and north side of point. There are no permanent reference objects near station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Buena" (N 85° 24′ E)	0	00	00	.....	1¼ miles.
Tangent of Teague Point	20	00	..	.....	75 yards.
Near corner of right chimney of Gourley house near Hallowing Point	65	45	..	.....	1¼ miles.
Canning-house stack	106	18	..	.....	1¼ miles.
Near end of peak of hotel	108	12	..	.....	1¼ miles.
Left one of two ivy-covered chimneys	110	25	..	.....	1 mile.
"Catholic Church Cross"	114	11	10	.....	1 mile.
Chimney on Slye House	130	30	..	.....	2 miles.
Left chimney of house on hill	144	57	..	.....	2 miles.
Tanget of high-water mark	168	00	..	.....	75 yards.
Near end of peak of roof	223	41	..	.....	1 mile.
Chimney on large house on hill	243	20	..	.....	3 miles.
Left chimney on house	301	17	..	.....	1 mile.
Near end of peak of roof on store at Buena Vista	355	59	..	.....	1¼ miles.

CATHOLIC CHURCH CROSS (BENEDICT).

General locality.—Western shore of upper Patuxent River in the town of Benedict. (See Chart No. 26.)

Immediate locality.—Observed station is on Catholic Church, located on the main street of the town of Benedict about one-fourth mile from the wharf.

Marks.—Observed station is center point of cross on church.

References.—None necessary.

CITY.

General locality.—Western shore of Patuxent River on Town Point about one-fourth mile north-northeast of Benedict steamboat wharf. (See Chart No. 26.)

Immediate locality.—Observed station is on gravel and shell point about 4 feet above high water, 12 yards northwest of the shore, 63 yards west-southwest of a shanty, about 100 yards west-southwest of extreme end of point, and 11 yards southeast of a slough. There are no permanent reference objects near station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Hallowing" (S 51° 21′ E)	0	00	00	.....	¼ mile.
Windmill near Sheridan Point	21	39	..	.....	3½ miles.
Two middle chimneys at Dowells	21	39	..	.....	3½ miles.
Left tangent of peak of wharf-house roof	81	34	..	.....	¼ mile.
Center of roof of square house	84	36	..	.....	½ mile.
Canning-house stack	95	22	..	.....	¾ mile.
Nearest ivy-covered chimney of old house	130	14	..	.....	⅛ mile.
"Catholic Church Cross"	142	58	50	.....	¼ mile.
Left square chimney of house	245	42	..	.....	1¾ miles.
Near end of peak of roof of Huggins house	280	54	..	.....	1½ miles.
Near corner of shanty	300	44	..	.....	63 yards.
Right chimney of Gourley house	339	20	..	.....	¾ mile.
Chimney of old building behind wharf	352	01	..	.....	¾ mile.

HALLOWING.

General locality.—Eastern shore of Patuxent River on point opposite Benedict, known locally as Holland Point, but given on charts as Hallowing Point. (See Chart No. 26.)

Immediate locality.—Observed station is on a rounded gravel and grass point about 250 yards south of wharf on Holland Point, about 2 feet above high water, 10 yards north of shore, 8 yards east of shore, and 15 yards outside of a group of locust trees, sugar-berry trees, and bushes.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"City" (N 51° 21′ W)	0	00	00	.....	¾ mile.
Left end of peak of roof of wharf house on Holland Point	23	15	..	.....	250 yards.
Chimney of store at Buena Vista	77	27	..	.....	1¾ miles.
Nail in blaze in nearest one of group of four sugar-berry trees (each 8 inches diameter)	92	24	..	.....	12.88 meters.
Nail in blaze in sugar-berry tree (10 inches diameter)	109	58	50	.....	15.74 meters.
Nail in blaze in locust tree (4 inches diameter)	167	55	40	.....	11.90 meters.
Smokepipe on Trent Hall Wharf building	227	35	..	.....	2¼ miles.
Outside chimney of detached house at Sothorons	309	54	..	.....	1½ miles.
Center of roof on square house	314	15	..	.....	¾ mile.
Canning-house stack	333	16	..	.....	½ mile.
"Catholic Church Cross"	347	44	20	.....	¾ mile.

INDIAN.

General locality.—Western shore of Patuxent River on north side of entrance to Indian Creek and about one-fourth mile below Benedict steamboat wharf. (See Chart No. 26.)

Immediate locality.—Observed station is about 3 feet above high water, 7 yards west of shore, 16 yards northeast of a fence and a line of trees, 13 yards southwest of a lone locust tree, about 250 yards to the south-southeast of a large square house, and 125 yards east-northeast of another house.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Sothoron" (S 23° 11′ E)	0	00	00	.....	1 mile.
Nail in blaze in locust tree near fence (5 inches diameter)	33	48	50	.....	15.57 meters.
Nail in blaze in middle branch of locust tree (6 inches diameter)	66	24	50	.....	19.13 meters.
Square chimney on old house	137	23	..	.....	1¼ miles.
Right chimney of square house	188	30	..	.....	⅛ mile.
Near end of peak of roof of hotel	206	26	..	.....	¼ mile.
Canning-house stack	213	22	10	.....	¼ mile.
Nail in blaze in left branch of locust tree (5 inches diameter)	225	28	..	.....	12.90 meters.
Right tangent of Benedict Wharf	228	10	..	.....	½ mile.
Chimney of house near "Buena Vista"	245	58	..	.....	2¼ miles.
Chimney of Gourley house	270	28	..	.....	1 mile.
Windmill at Dowell's on Sheridan Point	344	48	..	.....	4¼ miles.
Left of right chimney on Dowell house	344	48	..	.....	4¼ miles.

DWARF.

General locality.—Eastern shore of Patuxent River about 2 miles north-northwest of Sheridan Point and about 1¼ miles southeast of Benedict on a point of land opposite the mouth of Indian Creek. (See Chart No. 26.)

Immediate locality.—Observed station is on sand and grass land about 1 foot above high-water mark, 6 yards northeast from extreme end of point, 4 yards east of one edge of shore, and 6 yards north of another edge of shore. Point on which station is located has a sugar-berry tree, several small locust trees and water bushes, and a pond behind bushes and trees about 100 yards to the east.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Sothoron" (S 42° 05′ W)	0	00	00	.....	¾ mile.
Nearest corner of top of nearest chimney on tenant house	80	31	..	.....	2 miles.
Center of roof of square house	83	16	..	.....	1 mile.
Nail in blaze in locust tree (4 inches diameter)	93	38	30	.....	4.22 meters.
Canning-house stack	95	03	33	.....	1¼ miles.
"Catholic Church Cross"	99	03	10	.....	1¼ miles.
Left tangent of wharf	124	19	..	.....	¾ mile.
Nail in sugar-berry tree (10 inches diameter)	152	38	30	.....	8.94 meters.
Nail in blaze in locust tree (3 inches diameter)	196	22	20	.....	2.68 meters.
Chimney on small house	258	48	..	.....	2 miles.
Left point of peak of roof of Dowell's	287	30	..	.....	2¼ miles.
Left end of peak of roof of Trent Hall Wharf	315	35	..	.....	1½ miles.
Middle cupola on stable	321	12	20	.....	1½ miles.
Right pillar on Sothoron house porch	359	21	..	.....	1 mile.

SOTHORON.

General locality.—Western shore of Patuxent River on Long Point between entrances to Indian and Trent Hall creeks. (See Chart No. 26.)

Immediate locality.—Observed station is on sand and grass lowland about 1 foot above high-water mark among cedar trees, about 24 yards west by north of extreme end of point, 12 yards north of one edge of shore and 30 yards southwest of another edge of shore.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Hallowing" (N 13° 51′ E)	0	00	00	.....	1¼ miles.
Nearest chimney on Gourley house	3	55	..	.....	1¼ miles.
Nail in blaze in locust tree (4 inches diameter)	30	49	..	.....	3.35 meters.
Left end of peak of roof of Dowell house	120	35	..	.....	2¼ miles.
Middle cupola on Trent Hall stable	150	25	00	.....	1¼ miles.
Point of middle attic window on John Bullinger house	187	42	..	.....	1 mile.
Left pillar of porch of Sothoron house	206	23	..	.....	½ mile.
Nail in blaze in cedar tree (12 inches diameter)	242	51	50	.....	8.12 meters.
Near corner of nearest chimney on Slye house	291	05	20	.....	2 miles.
Nail in blaze in locust tree (4 inches diameter)	302	29	40	.....	10.83 meters.
Right one of two outside chimneys on old house on hill on property of A. B. Slye	307	31	..	.....	2 miles.
Center of roof on square house	323	39	..	.....	1 mile.
Nail in blaze in locust tree (6 inches diameter)	350	24	10	.....	12.81 meters.

BUZZ.

General locality.—Northeast shore of Patuxent River on southwest side of Buzzards Island near mouth of Buzzards Island Creek. (See Chart No. 26.)

Immediate locality.—Observed station is on marsh, clay, and grass land on wooded island about 2 feet above high water, 5 yards northeast of river shore and 40 yards northwest of extreme point of island. Cement monument marking reference station is 8.97 meters N 42° 23′ E of observed station.

Marks.—Observed station is nail in stub with top flush with ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Morsel" (S 25° 23′ E)	0	00	00	.....	¾ mile.
Smokepipe on roof of storehouse	39	11	..	.....	2 miles.
Near corner of near chimney	40	36	..	.....	2 miles.
Chimney of Trent Hall	50	48	..	.....	1¼ miles.
Nearest of three cupolas on stable	54	36	50	.....	1¼ miles.
Left piazzi post at Sothorons	102	41	..	.....	1¼ miles.
Center of roof of square house	155	15	..	.....	1¾ miles.
"Catholic Church Cross"	164	56	..	.....	2 miles.
Nail in blaze in oak tree (18 inches diameter)	172	14	..	.....	4.55 meters.
Nail in blaze in oak tree (18 inches diameter)	198	36	40	.....	13.16 meters.
Nail in blaze in oak tree (24 inches diameter)	235	08	30	.....	9.62 meters.
REFERENCE STATION	252	45	45	.....	8.97 meters.
Nail in blaze in pine tree (5 inches diameter)	255	43	..	.....	6.52 meters.
Chimney on house across creek	313	23	..	.....	¼ mile.

BOUNDARIES OF OYSTER BARS.

EXPLANATION.

The law of the United States authorizing the cooperation of the Department of Commerce and Labor in the survey of natural oyster bars of Maryland provides for the designation and employment by the Department of Commerce and Labor of such officers, experts, and other technically qualified persons "as may be necessary to cooperate with the Maryland State Board of Shell Fish Commissioners in making a survey of and locating the natural oyster beds, bars, and rocks in the waters within the State of Maryland." The oyster laws of Maryland provide that the Maryland Shell Fish Commissioners, with the aid of such persons as may be designated by the Government, shall proceed "to have laid out, surveyed, and designated on the said charts the natural beds and bars, and shall cause to be marked and defined as accurately as practicable the limits and boundaries of the natural beds, bars, and rocks as established by said survey, and they shall take true and accurate notes of said survey in writing, and make an accurate report of said survey, setting forth such a description of landmarks as may be necessary to enable the said board, or their successors, to find and ascertain the boundary lines of the said natural oyster beds, bars, and rocks, as shown by a delineation on the maps and charts." The oyster laws of Maryland also provide in another section that there shall "be made a true and accurate survey of the natural oyster beds, bars, and rocks * * * with reference to fixed and permanent objects on the shore, giving courses and distances, to be fully described and set out in a written report of said survey."

Under the provisions of the laws quoted above the State of Maryland, in cooperation with the Department of Commerce and Labor, must define the boundaries of the natural oyster bars "as accurately as practicable" and also "with reference to fixed and permanent objects on the shore, giving courses and distances." The requirement of "as accurately as practicable" is easily fulfilled by definition of the location of the corners of the oyster bars by latitude and longitude. In fact, this method is probably the most satisfactory and accurate one that could be used for all purposes of legal definition or for relocation of the oyser-bar boundaries by competent engineers. Therefore the additional requirement of "giving courses and distances" is superfluous and is only fulfilled in the published definitions on account of the specific provisions of the law making it compulsory. This part of the description of boundaries has involved an immense amount of extra computations in order to prevent technical discrepancies between the latitude and longitude of a corner of an oyster bar and its distance and bearing from objects on shore of known latitude and longitude without adding anything to the accuracy and very little to the convenience of practical use of the descriptions of the oyser-bar boundaries.

As provided by law the boundaries of the oyster bars are all straight lines, but in the work already completed they have inclosed areas of all shapes from triangles to complicated 14-sided figures, and of all sizes from 4 acres to 7,548 acres. The sides have varied in length from 93 to 7,529 yards, and in some cases the corners of the boundaries have been practically at the triangulation stations from which they are located, while in other instances they were over 13,600 yards from the landmarks most available for the purpose of fixing their position.

The varied characteristics of the legal boundaries of the oyster bars indicated by the above statement, together with the complicated requirements of the law under which the survey has been made and the magnitude of the work with the consequent need of fixed and uniform methods, have made the problem of describing the boundaries one of considerable difficulty and great importance.

The boundaries of the oyster bars of Maryland, as established by the Shell Fish Commission and delineated on the Coast and Geodetic Survey charts and projections and on the leasing charts of the Commission, are technically defined and described by a method somewhat different from that used in other oyster surveys. But it is believed that the forms finally adopted will fulfill all needs of the survey for both the present and the future.

METHOD OF DESCRIBING BOUNDARIES.

The descriptions have been arranged in tabular form, thus avoiding many hundred repetitions of the same words by making one explanation of the tables sufficient for all oyster bars in each county.

Title.—At the top of each tabular form is given the legal name of the oyster bar to be described, and the one by which it is known and designated in the published oyster records and on the oyster charts. The adopted name of the oyster bar is the one used locally, as nearly as could be ascertained by the hydrographic engineer of the Commission; and when there was no local name in common use a name was selected from one of the prominent features of the vicinity that would naturally suggest the section of the waters where the oyster bar was located.

Underneath the name, in parentheses, is given the general locality of the oyster bar and the serial number of the "Maryland Oyster Chart" on which its legal boundaries are shown.[a]

First column.—This column, under the heading of "Corner of bar," gives the number corresponding to the corner of the boundary as shown on the charts and to the number on the buoy marking the actual corner of the bar. The numbers of the corners have been assigned by naming the southernmost point No. 1, thence proceeding in a clockwise direction around the bar. Where a corner of one oyster bar is identical with the corner of the boundaries of one or more other oyster bars, only the number of the corner of the oyster bar being described in the table is given in this column.

Second and third columns.—These two columns, under the headings of "Latitude" and "Longitude," give the geographic positions of the corners. These positions have been adopted by the Commission as the primary technical definition of the location of the corners, and should be considered as final in case of a dispute arising from discrep-

[a] These charts can be obtained by application to the Superintendent of the Coast and Geodetic Survey at Washington, D. C.

ancies caused by other means of location. The latitudes and longitudes given in these columns are based on the United States standard datum of the Coast and Geodetic Survey, and the points thus defined can be relocated from distant triangulation stations of the survey, even though all the landmarks and buoys originally used for their location have been destroyed by natural or other causes.

Fourth and fifth columns.—These two columns, under the general heading of "True bearing"[a] and the specific headings "Forward" and "Back," give bearings measured from a true north-and-south line. The three "Forward" bearings are from the corner of the boundary designated in the first column to the triangulation stations named on the corresponding lines in the last column, and the three "Back" bearings are from these same stations in the last column to the corresponding corner of boundary in the first column. The difference in minutes of arc between the forward and back bearings shown in some cases is actual and not accidental, and is due to the fact that the computations took into account the spheroidal shape of the earth.

Sixth column.—This column, under the heading of "Distance," gives the three computed distances in yards from the corner of the bar noted in the first column to the three triangulation stations named on the corresponding lines in the last column, and vice versa.

Seventh column.—This column, under the heading of "U. S. C. & G. S. triangulation station,"[b] gives the names of the landmarks from which were computed the corresponding "Latitude," "Longitude," "True bearing," and "Distance" of the "Corner of the bar" designated in the first column. A full description of the location and markings of these triangulation stations is given in another part of this publication under the heading of "Descriptions of triangulation stations."

SURVEYING METHODS FOR RELOCATION OF BOUNDARIES.

There are a number of methods that can be used in the relocation of the actual boundaries of the natural oyster bars as technically described in this publication and delineated on the published charts of the Coast and Geodetic Survey and the leasing charts of the Shell Fish Commission.

The following brief descriptions of five of these more or less different methods assume a certain amount of experience and knowledge on the part of the engineer in the particular kind of surveying under consideration, and are only intended as reminders of ways and means that can be used.

There are two problems that are likely to present themselves to those interested in the boundaries of natural oyster bars: one, to determine whether the buoys marking the corners have been dragged or otherwise moved from their correct positions, and the other, to relocate or reestablish a buoy at the point from which it was removed. The different ways of solving these two problems partly depend upon the instruments possessed by the engineer and his assistants and partly on his training and experience.

(1) *Triangulation.*—This method is the one that will give the greatest accuracy, but on account of its requiring special data and instruments, and being an operation

[a] The mean magnetic variation for Charles County was 5° 20′ west of north in 1910 and increasing at the rate of 4′ yearly.

[b] Geographic positions of these triangulation stations can be obtained by application to the Superintendent of the Coast and Geodetic Survey, Washington, D. C.

rarely used by engineers not engaged in geodetic surveying, it is recommended only for cases in dispute that can not be settled satisfactorily by some other method. An explanation of this class of work would be too long for a report of this sort, and those not familiar with this method are referred to the publications on the subject by the Coast and Geodetic Survey.

(2) *Hydrographic.*—This method is the most simple and satisfactory one that can be adopted if the surveyor can obtain the use of the necessary instruments and assistants. It is the one best suited for the work of the engineers of the Commission in relocating corners of boundaries, as it gives results of the accuracy ordinarily required and is rapid in execution. Besides, it has the advantage of being available whenever three triangulation stations of suitable relative positions are visible from the offshore points needing relocation.

Most navigators and others familiar with the use of a sextant are well acquainted with the graphic three-point method of fixing a position on water, and only a brief description of the operation will be stated.

In the case where there is only one engineer having a single sextant, the three-point method can be used if the two angles determining the position of a buoy are first derived from the "Forward" bearings given in the tabular forms describing the boundaries of the oyster bars. For example, take "Stoddard" oyster bar, which is the first one described in this publication, and assume that "Corner No. 3," is to be examined as to its position. The angle between the two landmarks "Key" and "Upper" as determined from right to left from the forward bearings from this corner is 122° 28′ and the angle between "Upper" and "Stoddard" is 88° 43′. Having these two angles, the engineer proceeds to the buoy of doubtful location and measures the actual sextant angles between the landmarks for which the calculations were made. If the measured and calculated angles do not agree the buoy is not in its correct position and the boundary corner must be relocated. This is accomplished by moving the boat about until a point is reached where the angles do agree, and this point being the desired location, the buoy can be placed in its correct position.

If the engineer can obtain the use of both a sextant and a three-arm protractor ("position finder"), the availability of the hydrographic method is increased, as the use of the protractor is essential in case of the washing away or destruction of one or more of the landmarks originally used in describing the boundaries. Under these circumstances, any three landmarks of suitable relative position that are visible from the point to be located can be utilized. For example, the engineer can proceed to the buoy of doubtful position and measure the two adjacent sextant angles between the three landmarks selected. These two angles are set off on the three-arm protractor and the actual position of the buoy plotted on the chart by shifting the protractor about until the edge of each of the three arms passes through the center of the symbols on the chart marking the position of the three landmarks selected. The center of the hub of the protractor will indicate on the chart the actual position of the buoy, and if the point thus obtained does not coincide with the true position of the corner of the boundary as given on the chart, the surveyor can proceed to locate the buoy correctly by reversing the operation. This is done by placing the center point of the hub of the protractor over the corner of the boundary in question and measuring on the chart the two adjacent protractor angles between the three selected landmarks. One of the

angles thus obtained is set on the sextant and the boat moved about until the two landmarks are shown by the sextant to subtend the same angle obtained from the protractor. The second angle is then placed on the sextant and the same operation gone through, and so on, first using one angle on the sextant then the other until a point is reached where both observed sextant angles are practically identical with the protractor angles. The point thus located is the desired one and the buoy can be placed to mark the true position of the corner of the boundary in question.

If the engineer possesses two sextants and a protractor, this problem is far easier of solution, as the two angles can be set off on separate sextants and the observer can quickly find the desired point where they agree with the protractor angles by using one sextant after the other without the need of resetting either.

If there are two observers, two sextants, and a protractor, it can be seen that the best conditions for both rapid and accurate hydrographic location of a point is attained. In fact, this is the method by which the buoys at the corners of the boundaries were originally placed by the hydrographic engineer to the Commission.

(3) *Magnetic bearings from offshore.*—This method of fixing a position on water is a simple and well-known one in navigation. It is available to anyone having a boat compass and will be of special use to the State fishery force in investigating cases where buoys are supposed to have been moved for illegal purposes.

In the case where a buoy is supposed to have been moved from its true position the observer can take compass bearings to the three landmarks given in the last column of the tables opposite the boundary corner in question. These bearings are then corrected for the local declination,[a] and if the results agree with the published bearings the buoy is correctly located.

In the case where the buoy is not in its correct position, or has disappeared altogether, the desired point can be determined by maneuvering the vessel until the corrected bearings agree with the ones in the tabular descriptions, when the buoy can be anchored in its proper location.

In the case where the landmarks, for which the bearings are published, have been destroyed or washed away, any landmarks whose positions are indicated on the charts can be used. This can be done by getting their bearings directly from the chart by parallel rulers or a protractor and then applying these new bearings in the same manner as the ones published in the tables.

(4) *Magnetic bearings from shore.*—This method will be of special value to engineers having an ordinary surveyor's compass. The compass can be set over the point marking a "triangulation station" on shore, the name of which is given in the last column opposite the "corner" in question. The instrument is then set at the corresponding "back" bearing (corrected for local magnetic declination) given in the fifth column of the tables opposite the "corner" in question. The direction thus determined will give one range on which the desired point must be located. The compass can then be moved to a second triangulation station and another range located in a similar manner. The intersection of these two range lines will give the desired point; but in general it should be checked by an additional range line determined from a third station.

[a] The mean magnetic variation for Charles County is 5° 20′ west of north in 1910 and increasing at the rate of 4′ yearly.

(5) *Horizontal angles measured at landmarks.*—This process is a modification of the triangulation method, and will be useful to engineers who have a transit and desire considerable accuracy.

The instrument is placed over a "triangulation station," the name of which appears in the last column of the tabular description opposite the "corner" in question. The telescope is then pointed to the landmark indicated in the "Descriptions of landmarks" as having a direction of 0° 00′ 00″ from the triangulation station being occupied by the transit. The tabular description of the boundaries is next examined and the "back" bearing of the questionable boundary "corner" from the landmark being occupied is taken out. The angle calculated from this "back" bearing and the bearing given in parentheses alongside the zero landmark in the "Descriptions of landmarks" is then set off on the transit and a range line established on which the desired point must be located. A similar process is then carried on at a second station, and so on until the position of the buoy is satisfactorily fixed.

BOUNDARIES OF NATURAL OYSTER BARS.

STODDARD.

(*Upper Wicomico River—Chart No. 26.*)

Corner of bar.	Latitude.	Longitude.	True bearing.		Distance.	U. S. C. & G. S. triangulation station.
			Forward.	Back.		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 21 30.76	76 50 51.20	N 55 14 E	S 55 15 W	1,199	Key.
			N 87 09 W	S 87 10 E	856	Stoddard.
			S 52 52 W	N 52 52 E	1,354	Hayden.
2	38 21 31.00	76 51 14.34	N 37 05 W	S 37 05 E	1,102	Upper.
			N 81 54 W	S 81 54 E	244	Stoddard.
			S 29 24 W	N 29 23 E	947	Hayden.
3	38 21 38.90	76 51 14.82	N 75 46 E	S 75 46 W	1,663	Key.
			N 46 42 W	S 46 42 E	896	Upper.
			S 44 35 W	N 44 35 E	326	Stoddard.
4	38 21 38.74	76 50 51.60	N 67 24 E	S 67 24 W	1,078	Key.
			N 64 01 W	S 64 01 E	1,411	Upper.
			S 74 59 W	N 74 59 E	875	Stoddard.

WICOMICO LUMPS.

(*Upper Wicomico River—Chart No. 26.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 20 17.64	76 51 40.36	S 85 05 E	N 85 05 W	1,834	Fact.
			N 15 14 W	S 15 14 E	775	Burr.
			S 54 28 W	N 54 27 E	973	Bowman.
2	38 20 33.54	76 51 45.42	N 17 57 E	S 17 57 W	1,168	Hayden.
			N 18 07 W	S 18 07 E	223	Burr.
			S 30 50 W	N 30 50 E	1,284	Bowman.
3	38 21 10.18	76 50 51.08	S 84 22 E	N 84 22 W	897	Cohouck.
			N 49 23 W	S 49 24 E	1,131	Stoddard.
			S 83 30 W	N 83 29 E	1,090	Hayden.
Thence along county boundary as delineated on Chart No. 26 to corner No. 4.						
4	38 20 51.98	76 50 58.86	N 64 26 E	S 64 26 W	1,218	Cohouck.
			N 60 46 W	S 60 46 E	1,004	Hayden.
			S 72 34 W	N 72 34 E	1,368	Burr.
Thence along county boundary as delineated on Chart No. 26 to corner No. 5.						
5	38 20 20.70	76 51 13.00	N 55 17 W	S 55 17 E	1,132	Burr.
			S 66 14 W	N 66 13 E	1,660	Bowman.
			S 76 42 E	N 76 42 W	1,132	Fact.

MILLS WEST.

(*Upper Wicomico River—Chart No. 26.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 19 50.98	76 51 45.74	N 2 07 W	S 2 07 E	1,648	Burr.
			N 62 50 W	S 62 50 E	729	Bowman.
			S 26 44 E	N 26 43 W	1,156	Eedling.
2	38 20 17.64	76 51 40.36	S 85 05 E	N 85 04 W	1,834	Fact.
			N 15 14 W	S 15 14 E	775	Burr.
			S 54 28 W	N 54 27 E	973	Bowman.
3	38 20 20.70	76 51 13.00	N 55 17 W	S 55 17 E	1,132	Burr.
			S 66 14 W	N 66 13 E	1,660	Bowman.
			S 76 42 E	N 76 42 W	1,132	Fact.
Thence along county boundary as delineated on Chart No. 26 to corner No. 4.						
4	38 20 00.00	76 51 11.88	N 88 54 W	S 88 55 E	1,548	Bowman.
			S 15 50 W	N 15 50 E	1,392	Eedling.
			N 67 44 E	S 67 44 W	1,157	Fact.

JOES LUMPS.

(*Middle Wicomico River—Chart No. 26.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 19 04.42	76 50 28.14	N 78 10 E	S 78 11 W	961	Farr.
			N 2 14 W	S 2 14 E	2,313	Fact.
			S 77 22 W	N 77 22 E	1,049	Gust.
2	38 19 04.52	76 51 04.74	S 12 18 W	N 12 18 E	233	Gust.
			N 84 14 E	S 84 15 W	1,923	Farr.
			N 46 57 W	S 46 57 E	779	Eedling.
3	38 19 11.00	76 51 12.82	S 19 58 E	N 19 58 W	480	Gust.
			S 89 18 E	N 89 17 W	2,128	Farr.
			N 48 33 W	S 48 33 E	474	Eedling.
4	38 19 22.46	76 51 17.14	N 47 25 W	S 47 26 E	1,913	Bowman.
			S 73 02 W	N 73 02 E	250	Eedling.
			S 18 27 E	N 18 27 W	879	Gust.
5	38 19 50.98	76 51 45.74	N 2 07 W	S 2 07 E	1,648	Burr.
			N 62 50 W	S 62 50 E	729	Bowman.
			S 26 44 E	N 26 43 W	1,156	Eedling.
6	38 20 00.00	76 51 11.88	N 88 54 W	S 88 55 E	1,548	Bowman.
			S 15 50 W	N 15 50 E	1,392	Eedling.
			N 67 44 E	S 67 44 W	1,157	Fact.
	Thence along county boundary as delineated on Chart No. 26 to corner No. 1.					

WINDMILL.

(*Middle Wicomico River—Chart No. 26.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 18 13.28	76 50 55.00	S 20 55 E	N 20 55 W	502	Hedney.
			S 87 33 E	N 87 32 W	2,227	Lyon.
			N 11 43 W	S 11 43 E	1,523	Gust.
2	38 18 35.66	76 50 54.30	S 7 28 E	N 7 28 W	1,237	Hedney.
			S 68 56 E	N 68 55 W	2,359	Lyon.
			N 23 54 W	S 23 54 E	809	Gust.
3	38 18 45.28	76 51 04.61	S 15 43 E	N 15 43 W	1,604	Hedney.
			S 64 37 E	N 64 36 W	2,745	Lyon.
			N 7 25 W	S 7 25 E	421	Gust.
4	38 18 53.20	76 50 57.30	S 7 32 E	N 7 32 W	1,834	Hedney.
			N 71 28 E	S 71 29 W	1,809	Farr.
			N 59 02 W	S 59 02 E	289	Gust.
5	38 19 04.52	76 51 04.74	S 12 18 W	N 12 18 E	233	Gust.
			N 84 14 E	S 84 15 W	1,923	Farr.
			N 46 57 W	S 46 57 E	779	Eedling.
6	38 19 04.42	76 50 28.14	N 78 10 E	S 78 11 W	961	Farr.
			N 2 14 W	S 2 14 E	2,313	Fact.
			S 77 22 W	N 77 22 E	1,049	Gust.
	Thence along the county boundary as delineated on Chart No. 26 to corner No. 7.					
7	38 18 24.45	76 50 16.82	S 44 40 W	N 44 39 E	1,189	Hedney.
			S 68 42 E	N 68 42 W	1,299	Lyon.
			N 22 31 E	S 22 31 W	1,672	Farr.

FENWICK.

(*Middle Wicomico River—Chart No. 26.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 17 55.86	76 50 36.14	N 69 46 W	S 69 46 E	343	Hedney.
			S 14 00 E	N 14 00 W	1,227	Charles.
			N 74 04 E	S 74 04 W	1,792	Lyon.
2	38 18 13.28	76 50 55.00	S 20 55 E	N 20 55 W	502	Hedney.
			S 87 33 E	N 87 32 W	2,227	Lyon.
			N 11 43 W	S 11 43 E	1,523	Gust.
3	38 18 24.45	76 50 16.82	S 44 40 W	N 44 39 E	1,189	Hedney.
			S 68 42 E	N 68 42 W	1,299	Lyon.
			N 22 31 E	S 22 31 W	1,672	Farr.
Thence along the county boundary as delineated on Chart No. 26 to corner No. 4.						
4	38 17 55.98	76 50 08.16	N 63 31 E	S 63 32 W	1,095	Lyon.
			N 83 52 W	S 83 52 E	1,072	Hedney.
			S 20 30 W	N 20 30 E	1,275	Charles.

WICOMICO MIDDLE GROUND.

(*Middle Wicomico River—Chart No. 26.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 17 26.40	76 49 42.82	S 68 36 E	N 68 35 W	1,357	Weiss.
			N 11 40 E	S 11 40 W	1,520	Lyon.
			S 80 01 W	N 80 00 E	1,137	Charles.
2	38 17 31.78	76 50 25.60	S 2 32 E	N 2 32 W	379	Charles.
			N 47 54 E	S 47 55 W	1,945	Lyon.
			N 32 54 W	S 32 54 E	1,108	Hedney.
3	38 17 55.86	76 50 36.14	N 69 46 W	S 69 46 E	343	Hedney.
			S 14 00 E	N 14 00 W	1,227	Charles.
			N 74 04 E	S 74 04 W	1,792	Lyon.
4	38 17 55.98	76 50 08.16	N 63 31 E	S 63 32 W	1,095	Lyon.
			N 83 52 W	S 83 52 E	1,072	Hedney.
			S 20 30 W	N 20 30 E	1,275	Charles.
Thence along county boundary as delineated on Chart No. 26 to corner No. 1.						

CHARLESTON CREEK.

(*Middle Wicomico River—Chart No. 26.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 16 45.98	76 50 04.48	S 3 51 E	N 3 51 W	697	Hard.
			N 64 45 E	S 64 45 W	2,033	Weiss.
			N 25 02 W	S 25 03 E	1,286	Charles.
2	38 17 10.08	76 50 04.50	S 1 48 E	N 1 48 W	1,508	Hard.
			N 88 17 E	S 88 18 W	1,841	Weiss.
			N 57 01 W	S 57 01 E	649	Charles.
3	38 17 26.40	76 49 42.82	S 68 36 E	N 68 35 W	1,357	Weiss.
			N 11 40 E	S 11 40 W	1,520	Lyon.
			S 80 01 W	N 80 00 E	1,137	Charles.
	Thence along county boundary as delineated on Chart No. 26 to corner No. 4.					
4	38 16 55.66	76 49 32.82	N 61 31 E	S 61 32 W	1,133	Weiss.
			N 58 48 W	S 58 49 E	1,621	Charles.
			S 37 53 W	N 37 53 E	1,294	Hard.

LANCASTER.

(*Lower Wicomico River—Chart No. 26.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 16 26.20	76 49 48.82	S 73 19 E	N 73 18 W	2,146	Prec.
			N 42 50 E	S 42 51 W	2,093	Weiss.
			S 85 37 W	N 85 37 E	371	Hard.
2	38 16 30.22	76 50 04.42	S 15 25 E	N 15 25 W	170	Hard.
			N 52 43 E	S 52 44 W	2,310	Weiss.
			N 17 50 W	S 17 51 E	1,783	Charles.
3	38 16 45.98	76 50 04.48	S 3 51 E	N 3 51 W	697	Hard.
			N 64 45 E	S 64 45 W	2,033	Weiss.
			N 25 02 W	S 25 03 E	1,286	Charles.
4	38 16 55.66	76 49 32.82	N 61 31 E	S 61 32 W	1,133	Weiss.
			N 58 48 W	S 58 49 E	1,621	Charles.
			S 37 53 W	N 37 53 E	1,294	Hard.
	Thence along the county boundary as delineated in Chart No. 26 to corner No. 5.					
5	38 16 34.94	76 49 13.42	S 50 45 E	N 50 45 W	1,442	Prec.
			N 67 32 E	S 67 32 W	1,791	Blakistone.
			N 21 15 E	S 21 15 W	1,330	Weiss.

ROCK POINT.

(Lower Wicomico River—Chart No. 26.)

Corner of bar-	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 15 53.62	76 49 54.98	N 77 43 E	S 77 43 W	2,271	Prec.
			N 10 53 W	S 10 53 E	1,090	Hard.
			S 47 24 W	N 47 24 E	944	Corner.
2	38 15 53.70	76 50 09.30	S 26 08 W	N 26 08 E	717	Corner.
			N 79 31 E	S 79 32 W	2,644	Prec.
			N 9 18 E	S 9 18 W	1,082	Hard.
3	38 15 56.62	76 50 23.06	S 3 53 E	N 3 53 W	744	Corner.
			N 82 39 E	S 82 40 W	2,991	Prec.
			N 29 10 E	S 29 10 W	1,110	Hard.
4	38 15 56.19	76 50 26.80	S 11 40 E	N 11 40 W	743	Corner.
			N 82 38 E	S 82 39 W	3,091	Prec.
			N 33 03 E	S 33 04 W	1,173	Hard.
5	38 15 58.92	76 50 26.82	S 10 24 E	N 10 24 W	834	Corner.
			N 84 20 E	S 84 22 W	3,081	Prec.
			N 35 42 E	S 35 42 W	1,098	Hard.
6	38 16 00.00	76 50 18.76	S 4 17 W	N 4 17 E	857	Corner.
			N 84 39 E	S 84 40 W	2,864	Prec.
			N 26 30 E	S 26 30 W	956	Hard.
7	38 16 20.60	76 50 01.98	S 18 13 W	N 18 13 E	1,632	Corner.
			S 79 54 E	N 79 53 W	2,443	Prec.
			N 6 59 W	S 6 59 E	162	Hard.
8	38 16 26.20	76 49 48.82	S 73 19 E	N 73 18 W	2,146	Prec.
			N 42 50 E	S 42 51 W	2,093	Weiss.
			S 85 37 W	N 85 37 E	371	Hard.
9	38 16 34.94	76 49 13.42	S 50 45 E	N 50 45 W	1,442	Prec.
			N 67 32 E	S 67 32 W	1,791	Blakistone.
			N 21 15 E	S 21 15 W	1,330	Weiss.
10	38 16 01.56	76 49 33.97	N 82 38 E	S 82 39 W	1,675	Prec.
			N 43 36 W	S 43 36 E	1,108	Hard.
			S 54 07 W	N 54 07 E	1,550	Corner.

SHIPPING POINT.

(Lower Wicomico River—Chart No. 26.)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 15 26.96	76 49 47.60	N 73 48 W	S 73 49 E	930	Corner.
			S 8 55 E	N 8 55 W	1,830	Cobb Point Bar Light.
			S 65 57 E	N 65 57 W	1,858	St. Margaret 2.
2	38 15 28.40	76 50 12.00	S 26 40 E	N 26 40 W	2,078	Cobb Point Bar Light.
			S 71 03 E	N 71 02 W	2,480	St. Margaret 2.
			N 49 15 W	S 49 15 E	322	Corner.
3	38 15 42.76	76 49 57.94	N 5 03 W	S 5 03 E	1,441	Hard.
			S 66 04 W	N 66 04 E	676	Corner.
			S 13 25 E	N 13 25 W	2,406	Cobb Point Bar Light.
4	38 15 53.70	76 50 09.30	S 26 08 W	N 26 08 E	717	Corner.
			N 79 31 E	S 79 32 W	2,644	Prec.
			N 9 18 E	S 9 18 W	1,082	Hard.
5	38 15 53.62	76 49 54.98	N 77 43 E	S 77 43 W	2,271	Prec.
			N 10 53 W	S 10 53 E	1,090	Hard.
			S 47 24 W	N 47 24 E	944	Corner.
6	38 15 45.40	76 49 40.46	N 67 30 E	S 67 31 W	1,985	Prec.
			N 23 43 W	S 23 43 E	1,471	Hard.
			S 71 27 W	N 71 27 E	1,142	Corner.

COBB POINT.

(Lower Wicomico River—Chart No. 26.)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 14 32.61	76 49 24.30	N 45 04 E	S 45 05 W	1,522	St. Margaret 2.
			N 35 52 W	S 35 53 E	2,580	Corner.
			N 85 52 W	S 85 52 E	337	Cobb Point Bar Light.
2	38 14 33.33	76 49 36.93	S 81 09 E	N 81 08 W	3,285	St. Catherine.
			N 53 22 E	S 53 23 W	1,762	St. Margaret 2.
			N 29 39 W	S 29 39 E	2,379	Corner.
3	38 14 38.79	76 49 53.05	S 66 46 E	N 66 45 W	467	Cobb Point Bar Light.
			N 64 48 E	S 64 49 W	2,035	St. Margaret 2.
			N 21 39 W	S 21 40 E	2,030	Corner.
4	38 15 00.00	76 50 16.60	S 49 33 E	N 49 33 W	1,386	Cobb Point Bar Light.
			N 86 28 E	S 86 29 W	2,473	St. Margaret 2.
			N 5 53 W	S 5 53 E	1,173	Corner.
5	38 15 00.00	76 49 47.48	S 17 22 E	N 17 22 W	940	Cobb Point Bar Light.
			N 84 53 E	S 84 54 W	1,701	St. Margaret 2.
			N 37 30 W	S 37 30 E	1,471	Corner.

TEAGUE.

(Upper Patuxent River—Chart No. 26.)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 31 26.32	76 40 15.01	N 74 28 E	S 74 29 W	1,750	Buena.
			N 40 12 W	S 40 12 E	408	Teague.
			S 13 24 W	N 13 24 E	1,222	City.
2	38 31 47.57	76 40 25.32	S 1 23 E	N 1 23 W	405	Teague.
			S 82 47 E	N 82 46 W	1,974	Buena.
			N 23 49 E	S 23 49 W	1,208	Leitch.
3	38 31 41.00	76 40 05.60	S 88 56 E	N 88 56 W	1,436	Buena.
			N 1 28 W	S 1 28 E	1,328	Leitch.
			S 70 21 W	N 70 21 E	545	Teague.
4	38 31 31.00	76 40 00.50	N 76 34 E	S 76 35 W	1,337	Buena.
			N 5 48 W	S 5 48 E	1,673	Leitch.
			N 76 37 W	S 76 38 E	666	Teague.

ELBOW.

(Upper Patuxent River—Chart No. 26.)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 31 11.40	76 40 07.18	N 30 01 W	S 30 02 E	942	Teague.
			S 35 30 W	N 35 30 E	844	City.
			S 12 36 E	N 12 36 W	1,346	Hallowing.
2	38 31 21.38	76 40 07.64	N 66 55 E	S 66 56 W	1,620	Buena.
			N 43 48 W	S 43 48 E	663	Teague.
			S 25 02 W	N 25 02 E	1,131	City.
3	38 31 23.96	76 39 59.32	N 66 36 E	S 66 37 W	1,383	Buena.
			N 60 02 W	S 60 03 E	784	Teague.
			S 32 10 W	N 32 10 E	1,312	City.
4	38 31 15.42	76 39 58.63	N 56 15 E	S 56 16 W	1,505	Buena.
			N 45 45 W	S 45 45 E	973	Teague.
			S 41 07 W	N 41 07 E	1,090	City.

CARPENTERS YARD.

(Upper Patuxent River—Chart No. 26.)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 30 14.21	76 40 28.32	S 59 32 E	N 59 32 W	1,260	Dwarf.
			N 54 22 E	S 54 23 W	1,051	Hallowing.
			N 54 57 W	S 54 57 E	494	Indian.
2	38 30 14.56	76 40 37.12	S 63 45 E	N 63 44 W	1,471	Dwarf.
			N 61 02 E	S 61 03 W	1,240	Hallowing.
			N 32 13 W	S 32 13 E	322	Indian.
3	38 30 24.62	76 40 38.64	N 76 57 E	S 76 58 W	1,158	Hallowing.
			N 21 05 E	S 21 05 W	954	City.
			S 62 54 W	N 62 54 E	148	Indian.
4	38 30 39.94	76 40 25.60	S 71 56 E	N 71 56 W	822	Hallowing.
			N 0 24 W	S 0 24 E	373	City.
			S 39 18 W	N 39 18 E	752	Indian,
5	38 30 29.62	76 40 20.02	N 81 39 E	S 81 40 W	641	Hallowing.
			N 11 47 W	S 11 48 E	736	City.
			S 69 19 W	N 69 19 E	667	Indian.
6	38 30 24.08	76 40 27.79	N 71 36 E	S 71 37 W	886	Hallowing.
			N 3 29 E	S 3 29 W	910	City.
			S 83 20 W	N 83 20 E	421	Indian.

APPENDIXES.

APPENDIX A.—LAWS RELATING TO THE COOPERATION OF THE COAST AND GEODETIC SURVEY AND BUREAU OF FISHERIES WITH THE MARYLAND SHELL FISH COMMISSION.

The work of the Coast and Geodetic Survey and of the Bureau of Fisheries, in cooperation with the Maryland Shell Fish Commission, in surveying the oyster bars, establishing permanent landmarks at triangulation stations, and preparing for publication the necessary charts and technical and legal descriptions of boundaries and landmarks shown on these charts, has been executed in compliance with a request from the governor of the State of Maryland to the Secretary of Commerce and Labor, and by the authority of the following laws of the United States and Maryland:

[Act of Congress approved May 26, 1906.]

AN ACT To authorize the Secretary of Commerce and Labor to cooperate, through the Bureau of the Coast and Geodetic Survey and the Bureau of Fisheries, with the shellfish commissioners of the State of Maryland in making surveys of the natural oyster beds, bars, and rocks in the waters within the State of Maryland.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of Commerce and Labor be, and he is hereby, authorized and directed, upon the request of the governor of the State of Maryland, to designate such officers, experts, and employees of the Bureau of the Coast and Geodetic Survey and of the Bureau of Fisheries as may be necessary to cooperate with the Maryland State board of shellfish commissioners in making a survey of and locating the natural oyster beds, bars, and rocks in the waters within the State of Maryland; and the Secretary of Commerce and Labor is hereby authorized and directed to furnish to the officers, experts, and employees of said Bureaus so detailed as aforesaid such instruments, appliances, and steam launches as may be necessary to make the survey aforesaid; and the Secretary of Commerce and Labor is hereby authorized to have made in the Bureau of the Coast and Geodetic Survey all the plats necessary to show the results of the aforesaid survey and the locations of the said natural oyster beds, bars, and rocks in the waters within the State of Maryland, and to furnish to the board of shellfish commissioners of the State of Maryland such copies as may be necessary, and for this purpose to employ, in the District of Columbia and elsewhere, such technically qualified persons as may be necessary to carry out the purpose of this act.

SEC. 2. That the Secretary of Commerce and Labor is hereby further authorized to have erected or constructed by the officers so detailed as aforesaid, while making such survey, such structures as may be necessary to mark the points of triangulation, so that the same may be used for such future work of the Coast and Geodetic Survey as the said Bureau may be hereafter required to perform in prosecuting the Government coast survey of the navigable waters of the United States located within the State of Maryland.

* * * * * * *

SEC. 4. That this act shall take effect from the date of its passage.

[Act of Congress approved June 30, 1906.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and seven, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and seven, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including the expenditures authorized under Public Act Numbered One hundred and eighty-one, approved May twenty-sixth, nineteen hundred and six, and contingent expenses incident thereto, five thousand dollars, together with the unexpended balance under this appropriation for nineteen hundred and six and prior years which is hereby reappropriated and made available on this account for the fiscal year nineteen hundred and seven. * * *

[Act of Congress approved March 4, 1907.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and eight, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and eight, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, to be immediately available and to continue available until expended, twenty-five thousand dollars. * * *

[Act of Congress approved May 27, 1908.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and nine, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and nine, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, which expenses, including cost of plats and charts, shall not exceed fifteen thousand dollars in any one year, to be immediately available, twenty thousand dollars.

[Act of Congress approved March 4, 1909.]

AN ACT Making appropriation for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and ten, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and ten, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, which expenses, including cost of plats and charts, shall not exceed fifteen thousand dollars in any one year, to be immediately available, twenty thousand dollars.

[Act of Congress approved June 25, 1910.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and eleven, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and eleven, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, to be immediately available fifteen thousand dollars.

[Act of the Legislature of Maryland approved April 2, 1906.]

AN ACT To establish and promote the industry of oyster culture in Maryland, to define and mark natural oyster beds, bars and rocks lying under the waters of this State, to prescribe penalties for the infringement of the provisions of this Act, and * * *.

SECTION 1. *Be it enacted by the General Assembly of Maryland*, That the following sections be, and they are hereby, added to article 72 of the Code of Public General Laws, title "Oysters." * * *

SEC. 86. The Board of Shell Fish Commissioners shall, as soon as practicable after the passage of this Act, cause to be made a true and accurate survey of the natural oyster beds, bars and rocks of this State, said survey to be made with reference to fixed and permanent objects on the shore, giving courses and distances, to be fully described and set out in a written report of said survey, as hereinafter required. A true and accurate delineation of the same shall be made on copies of published maps and charts of the United States coast and geodetic survey, which said copies shall be filed in the office of the said commissioners in the city of Annapolis, and the said commissioners shall further cause to be delineated upon copies of the published maps and charts of the United States coast and geodetic survey, of the largest scale, one copy for each of the counties of this State in the waters of which there are natural oyster beds, bars and rocks, all natural beds, bars and rocks lying within the waters of such county, which maps shall be filed in the offices of the clerks of the Circuit Court for the respective counties wherein the grounds so designated may lie. * * *

SEC. 87. The Governor of this State is hereby requested to ask the assistance of the United States coast and geodetic survey, and of the United States Fish Commissioner, to aid in the carrying out of the provisions of the preceding section.

* * * * * * * *

SEC. 89. As soon as practicable after the first day of April, 1906, the said commissioners shall organize, and shall at once proceed, with the assistance of such person or persons as may be detailed by the United States coast and geodetic survey and the United States Fish Commissioner, to aid them in their work, and of such persons as may be appointed under the preceding section, to have laid out, surveyed and designated on the said charts, the natural beds and bars, and shall cause to be marked and defined as accurately as practicable the limits and boundaries of the natural beds, bars, and rocks as established by said survey, and they shall take true and accurate notes of said survey in writing, and make an accurate report of said survey, setting forth such a description of landmarks as may be necessary to enable the said board, or their successors, to find and ascertain the boundary lines of the said natural oyster beds, bars and rocks, as shown by a delineation on the maps and charts provided in this Act; said report shall be completed and filed in the office of the board in the city of Annapolis within ninety days after the completion of the survey of any county. Said commissioners shall cause the same to be published in pamphlet form, and transmit copies of the said to the Clerks of the Circuit court for the respective counties, where the charts have been filed or directed to be filed as hereinafter provided; the said report to be filed by the clerks of the several counties in a book kept for that purpose. And the said survey and report, when filed, subject to the right of appeal hereafter provided for in this Act, shall be taken in all of the courts of this State as conclusive evidence of the boundaries and limits of all natural oyster beds, bars and rocks, lying within the waters of the county wherein such survey and report are filed, and shall be construed to mean in all of the said courts that there are no natural oyster beds, bars or rocks lying within the waters of the counties wherein such report and survey are filed other than those embraced in the survey authorized by this Act, and that all areas of the Chesapeake Bay and its tributaries within the State of Maryland, not shown in the survey to be natural oyster beds, bars or rocks shall be construed in all the courts of the State to be barren bottoms and open for disposal by the State for the purpose of private planting or propagation of oysters thereon under the provisions of this Act; provided, that the said survey and report shall not be construed as to affect in any manner the holdings by citizens of this State in any lot which may have been appropriated or taken up under the laws of this State prior to the approval of this Act.

The law of the State of Maryland, passed March 9, 1842, authorizing officers of the United States Coast and Geodetic Survey to enter upon the lands within the State limits for the purposes of the survey, is as follows:

AN ACT Concerning the Survey of the Coast of Maryland.

SECTION 1. *Be it enacted by the General Assembly of Maryland*, That it shall and may be lawful for any person or persons employed under and by virtue of an act of the Congress of the United States, * * * at any time hereafter to enter upon lands within this State for the purpose of exploring, surveying, triangulating, or leveling, or doing any other matter or thing which may be necessary to effect the objects of said act, and to erect any works, stations, buildings, or appendages requisite for that purpose, doing no unnecessary injury to private or other property.

SEC. 2.[a] *And be it enacted*, That in case the person or persons employed under the act of Congress aforesaid, can not agree with the owners or possessors of the land so entered upon and used as to the amount of damage done thereto by reason of the removal of fences, cutting of trees or injury to the crop or crops growing on the same, it shall and may be lawful for the said parties or either of them to apply to the chief justice for the time being or one of the associate judges of the judicial district in which such land may be situated, who shall thereupon appoint three disinterested and judicious freeholders, residents of the same judicial district, to proceed with as much despatch as possible to the examination of the matter in question, and the faithful assessment of the damages sustained by the owners or possessors aforesaid, and the said freeholders or a majority of them, having first taken and subscribed an oath or affirmation before the chief or associate justice aforesaid or other person duly authorized to administer the same, that they will well and truly examine and assess as aforesaid, and having given five days' notice to both parties of the time of their meeting, shall proceed to the spot, and then and there upon their own view and if required, upon the evidence of witnesses (to be by them sworn or affirmed and examined), shall assess the said damages, and shall afterward make report thereof and of their proceedings in writing under their hands and seals and file the same within five days thereafter in the office of the clerk of the county in which the land aforesaid is situated, subject to an appeal by either party to the county court of the said county within ten days after filing as aforesaid, and the said report so made as aforesaid if no appeal as aforesaid be taken, shall be held to be final and conclusive as between the said parties, and the amount so assessed and reported shall be paid to the said owners or possessors of the land so damaged within twenty days after the filing of said report, and the said chief or associate justice as aforesaid, shall have authority to tax and allow upon the filing of said report, such costs, fees and expenses to the said freeholders for the performance of their duty as he shall think equitable and just, which allowance shall be paid by the person or persons employed under the act of congress aforesaid, within the time last above limited, but if an appeal as aforesaid be taken, the case shall be set down for hearing at the first term of county court aforesaid, ensuing upon and after appeal, and it shall be lawful for either party immediately after the entry of such appeal, to take out summons for such witnesses as may be necessary to be examined upon the hearing aforesaid, and the said court shall have power in its discretion to award costs against which ever the final judgment shall be entered, and such appeal at the option of either party may and shall be heard before and the damage assessed by a jury of twelve men to be taken from the regular panel and elected as in other cases.

SEC. 3. *And be it enacted*, That if any person or persons shall wilfully injure or deface or remove any signal, monument or building or any appendage thereto, erected, used or constructed under and by virtue of the act of congress aforesaid, such person or persons so offending shall severally forfeit and pay the sum of fifty dollars with costs of suit to be sued for and recovered by any person who shall first prosecute the same before any justice of the peace of the county where the person so offending may reside, and shall also be liable to pay the amount of damages thereby sustained, to be recovered with costs of suit in an action on the case, in the name and for the use of the United States of America, in any court of competent jurisdiction.

[a] Under the rulings of the Comptroller of the Treasury no damages can be collected except through the United States Court of Claims unless an agreement has been made in advance.

Appendix B.—THE HAMAN OYSTER CULTURE LAW.

[Extract from Second Report of Shell Fish Commission.]

OBJECT.

"The legislature in placing chapter 711 of the acts of 1906, better known as the Haman Oyster Culture Law, upon the statute books of Maryland, had a twofold object in view:

1. To *encourage* an industry in oyster culture upon the *barren bottoms* beneath the tidewaters of the State.

2. To *prevent* the leasing of *natural oyster bars* for the purpose of oyster culture."

SURVEY.

"To make the leasing of barren bottoms possible and the leasing of natural bars impossible, provision was made for a survey of the natural bars for the purpose of accurately locating and marking the same. It was definitely provided that no barren bottoms should be leased in any part of the State until the natural bars of that region had been surveyed, charted, and marked with buoys."

Definition of a Natural Oyster Bar.

NATURAL BAR NOT DEFINED.

"The Shell Fish Commission is instructed by section 90 of the Haman Oyster Culture Law to exercise its judgment liberally in favor of the natural bars when surveying, charting and buoying them, but other than this the Commission is uninstructed in this important matter. The responsibility of defining a natural bar is placed upon the Commission."

DIVERSITY OF OPINION.

"No definition of a natural oyster bar could be formulated by any man or body of men which would meet with the approval of all parties concerned. Oystermen, as a rule, hold that all bottoms where oysters grow or have grown naturally even though now practically barren of oysters should be considered natural bars. Other citizens of the State who are not directly interested in the oyster business, but interested in the oyster industry from the standpoint of revenue, hold, as a rule, that no bottoms should be excluded from leasing for oyster culture which, by methods known to oyster culturists, may be made to yield a greater number of oysters than they now produce."

"It should be evident to every one that neither of these definitions could be adopted by the Commission as a working basis for determining which of the grounds surveyed are natural oyster bars."

THE GOLDSBOROUGH DEFINITION.

The definition of a natural oyster bar which very nearly approaches a reasonable and satisfactory compromise between the views of the subject held by *oystermen* on one hand and by *oyster culturists* on the other is that contained in an opinion rendered by Judge Charles F. Goldsborough in the circuit court for Dorchester County in the July term, 1881, in the case of William T. Windsor and George R. Todd *v.* Job T. Moore.

This definition has been adopted by the Shell Fish Commission as the basis for the determination of the status of the various oyster bottoms surveyed and is as follows:

What then is a natural bar or bed of oysters? It would be a palpable absurdity for the State to attempt to promote the propagation and growth of oysters and to encourage its citizens, by a grant of land, to engage in their culture, if the lands authorized to be taken up were only those upon which oysters do not and can not be made to grow. That there may be lands covered by water in the State where no oysters can be found, but where, if planted, they could be cultivated successfully, may be possible, but, if so, I imagine that their extent must be too limited for them to be of much practical, general advantage for the purposes of such a law as the one under discussion; but there are thousands of acres of hard and shifting sands where oysters not only are not found, but where it would be folly to plant them, and these latter it can not be supposed that the State intended to offer to give away, for the simple reason that the State could not help knowing that nobody would have them.

Upon the other hand there are large and numerous tracts where oysters of natural growth may be found in moderate numbers, but not in quantities sufficient to make it profitable to catch them, and yet where oysters may be successfully planted and propagated. In my opinion these can not be called natural bars or beds of oysters, within the meaning of the Act of Assembly, and it is just such lands as these that the State meant to allow to be taken up under the provisions of the above-mentioned section of the Act.

But there is still another class of lands where oysters grow naturally and in large quantities and to which the public are now and have been for many years in the habit of resorting with a view to earning a livelihood by catching this natural growth, and here, I think, is the true test of the whole question. Land can not be said to be a natural oyster bar or bed merely because oysters are scattered here and there upon it, and because if planted they will readily live and thrive there; but whenever the natural growth is so thick and abundant that the public resort to it for a livelihood, it is a natural oyster bar or bed and comes within the above-quoted restriction in the law, and can not be located or appropriated by any individual.

APPLICATION OF DEFINITION.

Before this definition may be of use in determining, accurately and scientifically, the status of an oyster ground, its central idea, "livelihood," must be expanded into accurately determinable factors, and these factors must be combined into a practical scheme of investigating the condition of the ground under consideration.

Stated briefly, a *livelihood* is represented by a *sum of money* obtained from the sale, at a fixed *price*, of a certain *quantity of oysters* gathered in a given *time* from an allotted *area* of ground.

Knowing the value of each of these factors it becomes possible to calculate the number of oysters an oyster ground must produce per square yard in order that oystermen may secure a livelihood by working upon it.

NOTE.—The factors into which the Commission resolved the livelihood problem, the value assigned to each factor, and the scheme devised for practical use in examining and applying the definition to oyster bottoms are given in outline in their second report under the heading of the preceding extract, and in detail in their first report on pages 32 to 69.

APPENDIX C.—SUMMARY OF THE PARTICULAR SURVEYING OPERATIONS WHICH CONSTITUTE AN "OYSTER SURVEY" AS NOW BEING CARRIED ON IN MARYLAND.

Explanation.—A brief account of the particular surveying operations which constitute an "oyster survey" as now being carried on in Maryland will assist in the interpretation of records contained in the technical part of this report, and will be of interest to many who may not understand the necessity for the great amount of work being done or its complicated character.

To those familiar with methods used in surveying and charting the characteristic features of large bodies of water there is an evident necessity for the various operations performed, especially when it is known that the boundaries of the public oyster bars and of the private lots leased for purposes of oyster culture must be surveyed and charted with the greatest practical accuracy. To others it will be sufficient to state that the actual experience gained from oyster surveys in other States has proven that in order to avoid endless dissatisfaction and litigation it is necessary to accurately locate and permanently establish oyster boundaries as is now being done in Maryland.

Triangulation survey.—Such refinement of survey work as that demanded by the conditions of an oyster survey when carried on at considerable distances offshore can only be obtained by the use of a system of triangulation as a framework or foundation. Therefore, a triangulation survey including the permanent marking of the positions of landmarks with monuments and a record of the descriptions of their locations for future recovery is a necessary operation of a complete oyster survey.

Topographic survey.—The technical records which establish the relation between the offshore oyster boundaries and triangulation landmarks are sufficient for the requirements of engineers in making resurveys, but do not supply the needs of others who are interested in the same boundaries by reason of their occupation as oystermen concerned as to the public oyster bars, or oyster culturists concerned as to the leasable bottoms. For these it is necessary to have the charts of the survey show the relation of the shore line and other topographic features to the boundaries of the public oyster bars and private oyster farms. Therefore, a topographic survey is a necessary operation of a complete oyster survey.

Hydrographic survey.—In the settlement of the important question of what is, or what is not, a natural oyster bar, and in the consideration of bottoms to be selected for purposes of oyster culture, information as to the depth of water and the character of the bottom is required. Therefore, a hydrographic survey is a necessary operation of a complete oyster survey.

Necessary foundation for an oyster survey.—Consequently, the necessary components of a satisfactory foundation for a complete oyster survey are the three classes of survey operations technically named triangulation, topography, and hydrography, or, stated in another way, the foundation of a practical oyster survey includes the surveying operations usually followed by the Coast and Geodetic Survey leading up to the preparation and publication of nautical charts.

Special surveys and investigations pertaining to oysters.—Having obtained this cartographic survey for a foundation, partly by new work and partly from records of previous work of the Government, the combined operations[a] making up an "oyster survey" are completed by superimposing on this foundation special surveys and investigations pertaining particularly to oysters or other shell fish.

The special surveys pertaining to oysters furnish information as to the location and outline of oyster-shell bottoms, and are carried on by the sounding boat party in addition to the usual hydrographic work.[b] This operation consists of the observation and record of the character of vibration of a wire and chain apparatus which is dragged over the bottom, the vibrations or lack of vibrations indicating the presence and quantity of shells or absence of shells.

The special oyster investigations[c] consist of the actual determination of the kind and quantity of oysters on the bottom, and such economic and biological studies of the supply of oyster food, density of water, character of the bottom, and other important matters as affect the growth of oysters. In this work the oyster investigation stations are located and buoyed by the hydrographic party while engaged in the survey of the oyster-shell limits. They are selected with the view of obtaining characteristic data which can be used for the interpretation of the recorded vibrations of the chain apparatus at all other points covered by the survey.

Preparation of results.—The actual surveying operations and oyster investigations having been completed for any one county, there still remains technical work of nearly equal magnitude to that described.[d] This work consists of the preparation of charts and technical descriptions of boundaries and landmarks for publication by the Government, the preparation of that part of the annual report of the Commission covering the special oyster surveys and investigations, the making of the leasing charts and finished projections, and finally the filing of the oyster charts and records with the courts and the Commission, thus opening a county for oyster culture.

Summary.—From the foregoing account it can be seen that a complete oyster survey properly conducted so as to answer all practical requirements of the present and permanency of results for the future is a very complicated affair, involving many lines of surveying and other scientific work, and requiring the professional services of experts in the various operations of cartographic surveying and shell-fish investigations.

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[a] See Appendix D of this publication for "Statistics of results of combined operations of the Government and State."

[b] See pages 104 to 123 of "First Annual Report of Maryland Shell Fish Commission."

[c] See pages 30 to 67 and 129 to 199 of "First Annual Report of Maryland Shell Fish Commission."

[d] No mention is made here of the large amount of administrative work of the Commission, which is greatly complicated and increased by the effect of the oyster-survey operations on many thousands of people whose interests are more or less involved; or of the large amount of survey work involved in the survey and record of the boundaries of oyster lots leased from the State by private individuals for the purposes of oyster culture.

APPENDIX D.—STATISTICS OF RESULTS OF THE COMBINED OYSTER SURVEY OPERATIONS OF THE GOVERNMENT AND STATE.[a]

Operations.	Anne Arundel County.	Somerset County.	Wicomico County.	Worcester County.	Calvert County.	Charles County.	Total.[b]
Beginning of field work	June 29, 1906	May 2, 1907	Aug. 27, 1907	Nov. 8, 1907	May 2, 1908	Aug. 18, 1908	.....
Filing of certified charts and reports	June 20, 1907	July 1, 1908	Dec. 1, 1908	Apr. 12, 1909	Dec. 14, 1909	Jan. 27, 1911	.....
Natural oyster bars surveyed and delineated	91	37	15	28	41	15	227
Acres of natural oyster bars	33,666	27,566	2,038	1,655	12,303	2,285	[c] 79,513
Crab bottoms surveyed and delineated	.....	54	.....	.....	.....	.....	54
Acres of crab bottoms	.....	32,108	.....	.....	.....	.....	32,108
Clam beds surveyed and delineated	.....	3	.....	.....	.....	.....	3
Acres of clam beds	.....	506	.....	.....	.....	.....	506
Boundary buoys located and planted	362	154	53	108	149	51	877
Triangulation landmarks established	123	86	30	48	78	42	365
Miles of shore line covered by triangulation	110	125	46	95	95	32	487
Square miles of water covered by triangulation	220	375	44	110	157	20	902
Miles of examination of shell bottom with chain apparatus	369	296	58	63	250	38	1,074
Oyster investigation stations occupied	440	679	162	147	667	113	2,208
Tide stations established	4	3	1	1	2	1	12
Number of soundings over shell bottoms	37,049	17,904	3,387	3,649	11,292	1,631	74,912
Square miles covered by soundings and chain apparatus	58	47	3	3	30	4	135
Projections prepared and plotted	9	13	2	5	8	3	38
Leasing charts prepared	13	12	2	3	5	2	37
Oyster charts published	4	6	2	3	5	1	21
Reports published	2	2	2	2	2	2	8
Progress maps published	2	2	2	2	2	2	8

[a] These statistics do not include the large amount of triangulation, topography, and hydrography resulting from previous work of the Coast and Geodetic Survey, which was utilized in the preparation of the published oyster charts and records. Work in St. Marys, Baltimore, Kent, Queen Anne, and Dorchester counties has been finished, but final statistics of results will not be published until these counties are opened for oyster culture.

[b] Less quantities covered by statistics of more than one county.

[c] Total area of natural oyster bars of Connecticut is 5,770 acres.

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COAST AND GEODETIC SURVEY

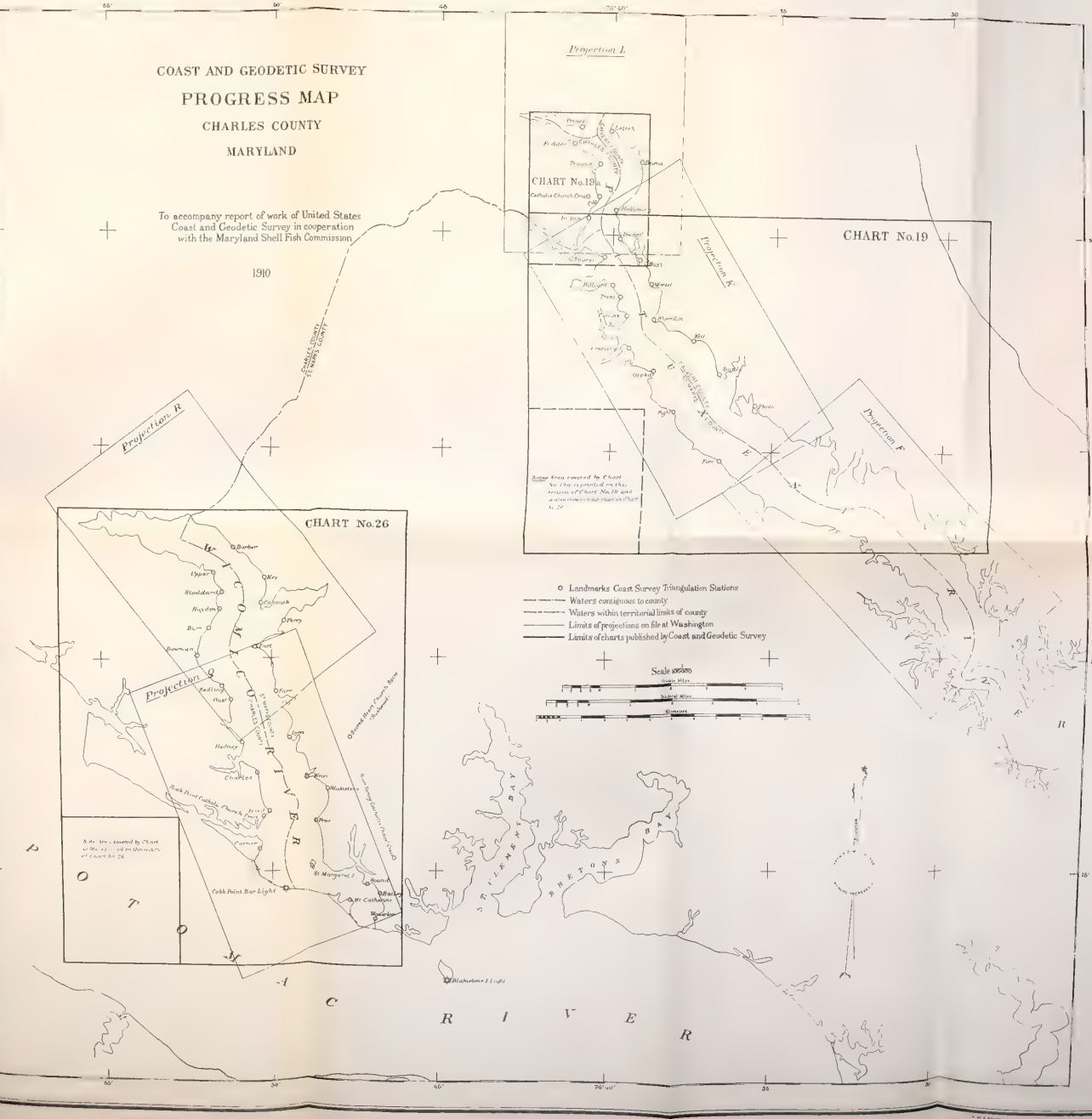
PROGRESS MAP

CHARLES COUNTY

MARYLAND

To accompany report of work of United States Coast and Geodetic Survey in cooperation with the Maryland Shell Fish Commission

1910



DEPARTMENT OF COMMERCE AND LABOR
COAST AND GEODETIC SURVEY
O. H. TITTMANN Superintendent

SURVEY OF OYSTER BARS

DORCHESTER COUNTY MARYLAND

DESCRIPTION OF BOUNDARIES AND LANDMARKS AND REPORT OF WORK OF UNITED STATES COAST AND GEODETIC SURVEY IN COOPERATION WITH UNITED STATES BUREAU OF FISHERIES AND MARYLAND SHELL FISH COMMISSION

By C. C. YATES
CHIEF OF COAST AND GEODETIC SURVEY PARTY
ASSISTANT, COAST AND GEODETIC SURVEY

WASHINGTON
GOVERNMENT PRINTING OFFICE
1912

LETTER OF SUBMITTAL.

DEPARTMENT OF COMMERCE AND LABOR,
COAST AND GEODETIC SURVEY,
Washington, August 17, 1912.

SIR: I have the honor to transmit herewith a report of the officer detailed from the Coast and Geodetic Survey to cooperate with the Bureau of Fisheries and the Maryland Shell Fish Commission in surveying the oyster bars of the State of Maryland, together with certain technical results which are necessary for the interpretation and use of the plats of the survey made by the Government.

This work has been done under the provisions of the act of Congress entitled "An act to authorize the Secretary of Commerce and Labor to cooperate, through the Bureau of the Coast and Geodetic Survey and the Bureau of Fisheries, with the Shell Fish Commissioners of the State of Maryland in making surveys of the natural oyster beds, bars, and rocks in the waters within the State of Maryland," approved May 26, 1906, and of the acts of Congress making appropriations for sundry civil expenses of the Government for the fiscal years ending June 30, 1907, 1908, 1909, 1910, 1911, and 1912.

Respectfully,

O. H. TITTMANN, *Superintendent.*

To Hon. CHARLES NAGEL,
Secretary of Commerce and Labor.

CERTIFICATION.

BALTIMORE, MD., *May 4, 1912.*

The following publication is certified to contain correct technical descriptions of all boundaries and landmarks established in Dorchester County by the Maryland Shell Fish Commission in cooperation with the United States Coast and Geodetic Survey.

C. C. YATES,
Chief of Coast and Geodetic Survey Party,
Assistant, Coast and Geodetic Survey.

BALTIMORE, MD., *May 4, 1912.*

Examined and certified to be correct.

WALTER J. MITCHELL,
CASWELL GRAVE,
BENJAMIN K. GREEN,
Maryland Shell Fish Commission.
SWEPSON EARLE,
Hydrographic Engineer.

NOTE.—Certified copies of this publication and of the charts of the natural oyster bars of Dorchester County were filed in the office of the clerk of the circuit court of Dorchester County and in the office of the Board of Shell Fish Commissioners on August 17, 1912.

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SURVEY OF OYSTER BARS, DORCHESTER COUNTY, MD.

INTRODUCTION.

PUBLICATIONS.

The preparation of publications relating to the survey of the oyster bars of Maryland has been divided between the Government and the State in accordance with the laws [1] authorizing the work and the natural division of the surveying operations [2] of the cooperating forces.

The publications prepared and issued by the Government under the direction of the Superintendent of the Coast and Geodetic Survey consist of a series of charts and a technical report for each county surveyed.[3] The charts show all legal boundaries of oyster bars within the adopted boundaries of the waters opened up for leasing with each county, and the location of all landmarks (Coast and Geodetic Survey triangulation stations) used as a foundation for the delineation of these various boundaries. The technical report gives technical and legal descriptions of all oyster bar and other boundaries, and descriptions of all landmarks shown on the charts, and includes the report of the representative of the Coast and Geodetic Survey in charge of the work of that service in cooperation with the Bureau of Fisheries and the Maryland Shell Fish Commission. These charts and technical reports are prepared and certified for file with the courts and the Commission, as required by the laws of the State, and contain all information necessary to make a permanent record of the work of the Commission and the Government for all future requirements of the courts, or for any resurveys that may become necessary.[4]

The publications prepared and issued by the State under the direction of the Shell Fish Commission consist of annual reports [5] of all the operations of the Commission performed under the provisions of the laws of Maryland,[6] including results of biological and economic oyster investigations, methods and results of the hydrographic survey of

[1] See Appendix A for laws relating to the cooperation of the Coast and Geodetic Survey and Bureau of Fisheries with the Maryland Shell Fish Commission.

[2] See Appendix C for a summary of the particular surveying operations which constitute an "oyster survey" as now being carried on in Maryland.

[3] These charts and technical reports can be obtained by application to the Superintendent of the Coast and Geodetic Survey at Washington, D. C. The publications now ready for issue are those for Anne Arundel, Somerset, Wicomico, Worcester, Calvert, Charles, St. Marys, Baltimore, Kent, Queen Annes, Talbot, and Dorchester Counties.

[4] The technical records and charts for each county are published separately on account of the requirements of the oyster-culture laws of the State and the practical considerations which make it desirable to have each county "opened up" for oyster culture as soon as practicable after the completion of its survey. For these reasons and the fact that these reports are each arranged for distribution and use in one county only without reference to other published records, much of the text of this publication is of necessity identical with similar previous publications for other counties.

[5] These reports can be obtained by application to the Shell Fish Commission, Marine Bank Building, Baltimore, Md. They are issued annually in October, and the first, second, third, and fourth reports are now available for distribution.

[6] See Appendix B for an extract from the "Second Report of the Maryland Shell Fish Commission," giving a concise summary of the "Haman oyster culture law."

the boundaries of oyster bars and crab bottoms, the administrative report and financial statement of the Commission, information relating to oyster culture, methods of surveying and leasing of oyster lots, and much other important matter of legal and scientific value.

These two sets of publications are planned and arranged to supplement each other without unnecessary duplication, and when combined they form a complete report of operations, methods, and results of the work of both the Government and State.[1]

COOPERATION OF THE COAST AND GEODETIC SURVEY.

The work of the Coast and Geodetic Survey, as the name of the service indicates, includes a survey of the coasts of the United States made on a geodetic basis. This has involved the gradual construction of a great framework of interstate triangulation for use as a foundation for detail hydrographic and topographic surveys, from which there has been compiled and published a complete set of charts of the coasts of the United States, including all waters of Maryland where oysters grow. This existing triangulation, hydrography, and topography is essential as a foundation for a correct and practical survey of natural oyster bars; and it being one of the fundamental functions of the Coast and Geodetic Survey to furnish such data, the cooperation of the Coast and Geodetic Survey with the Bureau of Fisheries and the Maryland Shell Fish Commission is a practical and natural development of Government work leading to the conservation and increase of the supply of food.

COOPERATION OF THE BUREAU OF FISHERIES.

The Bureau of Fisheries has cooperated with the Coast and Geodetic Survey and the Maryland Shell Fish Commission principally as an adviser in matters relating to the biological and economic survey of oyster bars and the methods to be employed for that purpose.[2] A steam launch, rowing boat, and certain apparatus have also been furnished.

The primary function of the Bureau of Fisheries is to increase the productiveness of marine and fresh waters by such measures as may be best suited to the purpose, and the services rendered in connection with the survey of the oyster bars of Maryland are strictly in line with the fundamental law under which it acts. In certain States other than Maryland similar work has been conducted by the bureau acting independently, the same ends being attained at greater expense to the Government.

GENERAL STATEMENT OF WORK OF COAST AND GEODETIC SURVEY.[3]

The results obtained from the work of the Coast and Geodetic Survey in cooperation with the Bureau of Fisheries and the Maryland Shell Fish Commission need very little other summary than is indicated by the published "Charts of Natural Oyster Bars" and the index of hydrographic projections and triangulation stations shown on the county progress maps attached to each report.

[1] See Appendix D of this publication for "Statistics of results of combined operations of the Government and State."

[2] Hon. George M. Bowers, Commissioner of Fisheries, has detailed for this service Dr. H. F. Moore, Assistant, Bureau of Fisheries.

[3] For a detail statement of the very large amount of excellent oyster survey work of the Maryland Shell Fish Commission see the "Annual Reports of the Maryland Shell Fish Commission."

The triangulation has been carried on in accordance with the standard methods of the Coast and Geodetic Survey, making this work and that of the "Descriptions of Triangulation Stations" of permanent value, not only to the State of Maryland in the survey of her oyster bars, but also to the Government for any future work it may do in the regions covered by the oyster-survey operations.

The hydrographic projections and published charts are prepared with all the accuracy permitted by their large scale, especially as to the boundaries of the various shell-fish bottoms in relation to landmarks, but this accuracy of location on the charts is further added to and permanently fixed by published technical descriptions, which should minimize the probability of any future dispute as to either landmarks or boundaries.

Stated another way, and quoting from the report of the "Survey of Oyster Bars of Anne Arundel County":

> The geographic positions of the permanent landmarks and signals have been determined with the usual precision of a trigonometric survey, and their locations at all points necessary to provide ample foundation for the surveying and charting operations permitted great accuracy of definition and location for the natural oyster bar and other boundaries established. At the same time, the very important element of permanency of the positions of boundaries has been secured, as the relocation of geodetic positions can always be accomplished by a competent surveyor, even though the original landmarks and monuments have been washed away, as has been the fate of hundreds of such points established by the Coast and Geodetic Survey on the shores of the Chesapeake Bay during the last 65 years.

REPORT OF THE WORK OF THE COAST AND GEODETIC SURVEY IN DORCHESTER COUNTY.

INSTRUCTIONS.

The following letters, together with the laws [1] of the United States relating to the subject, constitute the "instructions" received by the chief of the Coast and Geodetic Survey party engaged on work in connection with the Maryland Shell Fish Commission. They are short and definite, but furnish ample authority and leeway for all legitimate development of the cooperation of the Government and the State in the survey of oyster bars. The "free hand" permitted by these orders, together with the aid and many valuable suggestions received from the officers of the survey at Washington, have proved very beneficial to the work and are greatly appreciated.

DEPARTMENT OF COMMERCE AND LABOR,
OFFICE OF THE SECRETARY,
Washington, June 2, 1906.

SIR: In reply to your letter of May 28, requesting me to designate officers of the Coast and Geodetic Survey and of the Bureau of Fisheries to cooperate with the State of Maryland in making survey of and locating the natural oyster beds, I have the honor to inform you that Mr. C. C. Yates will be designated to cooperate on the part of the Coast and Geodetic Survey as soon as Congress makes the provisions of the act effective by providing an appropriation for the purpose.

Respectfully,

LAWRENCE O. MURRAY, *Assistant Secretary.*

His Excellency Hon. EDWIN WARFIELD,
Governor of Maryland, Annapolis, Md.

DEPARTMENT OF COMMERCE AND LABOR,
COAST AND GEODETIC SURVEY,
Washington, July 3, 1906.

SIR: Upon the receipt of these instructions you will surrender the command, accounts, etc., of the steamer *Endeavor* to the Hydrographic Inspector. * * *

As soon as this transfer is completed you will enter upon the duties of Coast Survey representative on the Shell Fish Commission of Maryland.

You will consult the Commissioners, prepare a program of work, and submit estimates in the usual form.

You are authorized to come to Washington for consultation from time to time as may be necessary.

* * * * * * * * *

Very respectfully,

O. H. TITTMANN, *Superintendent.*

Capt. C. C. YATES,
U. S. C. and G. S. Steamer Endeavor, Baltimore, Md.

ORGANIZATION AND EQUIPMENT.

The personnel and occupation of the party of the Coast and Geodetic Survey have remained practically unchanged since the beginning of the "oyster survey." Besides

[1] For these laws see Appendix A.

the chief of party, it consists of the necessary triangulators, computers, draftsmen, and temporary employees required to carry on both the surveying operations in the field and the preparation for publication of oyster charts and technical records in the office at Washington.

The equipment for the work of the party has been ample and satisfactory. The large living and office quarters furnished the Government on the Maryland Shell Fish Commission house boat *Oyster* have been very convenient for the work, besides facilitating efficient cooperation with the surveying and oyster investigation parties of the State. In addition to the accommodations on the *Oyster*, the Coast and Geodetic Survey party has had the constant use of the large launch *Inspector* and several other boats furnished by its own service, and the occasional use of the Bureau of Fisheries launch *Canvasback*[1] and the steamer *Governor McLane*[2] of the State Fishery Force.

The greater part of the equipment of instruments for the operations of both the Government and State has been furnished by the Coast and Geodetic Survey and consists of all necessary theodolites, levels, sextants, drafting instruments, hydrometers, etc., required for all field and office work.

CHRONOLOGICAL STATEMENT OF WORK.

The field work of the Coast and Geodetic Survey in Dorchester County dates from March 14, 1910, when a subparty was organized and sent out to complete certain unfinished details of triangulation in Talbot County and to take up the overlapping triangulation between Dorchester and Talbot Counties.[3] This party first went to St. Michaels, then to Cambridge, and finally to Oxford, where the main party on the house boat was joined at the end of April.

On April 30, 1910, the house boat *Oyster* was towed from Baltimore by the State steamer *McLane* to an anchorage in Tar Creek near Bellevue. While at this harbor the house boat was cleaned, painted, and generally overhauled for the season's work, and at the same time triangulation was carried on in Choptank River and its tributaries.

On May 30, 1910, the house boat shifted her anchorage to Tred Avon River off Oxford, from which point a small amount of field work was done in Dorchester County along with the work in Talbot County.

On June 30, 1910, the *Oyster* was towed to an anchorage off Cambridge, where she remained until the completion of the overlapping field work in Choptank River of both Dorchester and Talbot Counties.

On July 20, 1910, the house boat *Oyster* was towed from Cambridge to an anchorage off Solomons Island in the mouth of the Patuxent River. A greater part of the field work along the Chesapeake Bay shore of Dorchester County was carried on from this harbor. During weather too rough to work in the open Chesapeake Bay, considerable work was also done from this point in checking up descriptions of triangulation stations required for the preparation of the publications covering Calvert, St. Marys, and Charles Counties.

[1] By courtesy of Dr. H. F. Moore, United States Bureau of Fisheries.

[2] By courtesy of Capt. James A. Turner, commanding.

[3] The field work of Dorchester County was so intermixed with that of Talbot County that the chronological statement of the work in one of these counties necessarily includes a considerable part of the work of the other county.

On August 11, 1910, the *Oyster* was moved across the Chesapeake Bay to an anchorage in Honga River off Hoopers Island Wharf. A greater part of the oyster-survey work along the lower Chesapeake Bay shore of Dorchester County, as well as that of Honga River and Fishing Bay, was carried on from this point as headquarters.

On September 30, 1910, the field work in the southern half of Dorchester County being completed, the house boat *Oyster* was towed by the steamer *McLane* to the Little Choptank River and anchored off the town of Madison, where she remained for over two months while oyster-survey operations were being carried on in the Little Choptank River and its many tributaries.

On December 4, 1910, the house boat *Oyster* was moved to the northern side of Little Choptank River to an anchorage in the mouth of Hudson Creek, where she remained in spite of bad weather and ice until the practical completion of the oyster-survey work in Dorchester County.

On December 15, 1910, the field work of Dorchester County was completed, and as this was the last county to be surveyed, this date also marks the completion of all the field work of the Maryland Oyster Survey, with the exception of the two days, the 20th and 21st of June, 1912, when a small party, under the charge of Mr. Frank W. Seth, surveyman in the Coast and Geodetic Survey, was put in the field to complete necessary details of triangulation in Talbot and Dorchester Counties.

The office work connected with the oyster survey of Dorchester County, including the computations of geographic information and the drafting necessary for the preparation for publication of the oyster charts and the technical records of that county, was carried on intermittingly with the office work of other counties from the beginning of the field work in Dorchester County on March 14, 1910, to the time of filing of the certified oyster charts and technical records in the archives of the Maryland Shell Fish Commission and with the clerk of the circuit court of Dorchester County on August 17, 1912.

STATISTICS.[1]

Landmarks and triangulation signals erected	156
Monuments planted to mark triangulation stations	156
Triangulation stations occupied for observations of horizontal angles	161
Old triangulation stations recovered	65
New triangulation stations established	125
Total old and new triangulation stations marked and described	190
Linear miles of shore line covered by triangulation (approximate)	270
Square miles covered by triangulation (approximate)	330
Hydrographic projections prepared and completed as records of oyster boundaries	21
Triangles computed	380
Geographic positions computed	170
Corners of oyster bar and crab bottom boundaries established by computation	671
Back azimuths and distances computed from corners of boundaries to triangulation stations	2,013
Descriptions of triangulation stations prepared for publication	190
Descriptions of oyster bar and crab bottom boundaries prepared for publication	135
"Charts of Natural Oyster Bars" prepared for publication	8
Progress map prepared for publication	1

[1] These statistics only include field and office work directly performed by the party of the Coast and Geodetic Survey in connection with the oyster survey of this county, and do not include the many thousands of soundings and examinations of the character of the bottom made by the engineers of the Commission, which are of considerable value to the Coast and Geodetic Survey as hydrographic records for future use in connection with the preparation of new editions of charts of the waters of Maryland. See Appendix D of this publication for "Statistics of results of combined operations of the Government and the State."

GENERAL REMARKS.

Before ending this report the representative of the Coast and Geodetic Survey wishes to renew his statement of appreciation of the courteous assistance received from various Government and State officials and others interested in the oyster industry of Maryland, especially to the following:

To his colleague from the Department of Commerce and Labor, Dr. H. F. Moore, of the Bureau of Fisheries, whose well-known scientific knowledge of all matters relating to oysters has been of great value to the work.

To Mr. Walter J. Mitchell, chairman of the Maryland Shell Fish Commission, who, by his administrative ability in carrying out the complicated requirements of the oyster laws and by his unfailing tact, has made the cooperation of the various services engaged on the work both agreeable and effective.

To Dr. Caswell Grave, secretary of the Commission, who, as editor of the Commission's annual report and commissioner in charge of the biological and economic oyster investigations, has been brought into constant contact with the Government work and aided its operations in every way.

To Mr. Benjamin K. Green, treasurer of the Commission, who has looked after the equipment and commissary of the house boat in such a way as to add greatly to the comfort and convenience of the party of the Coast and Geodetic Survey.

To Mr. Swepson Earle, hydrographic engineer to the Commission, whose knowledge of the work from former service in the Coast and Geodetic Survey has greatly facilitated his practical use of the technical data furnished by the Government.

And to the many others connected with the Commission or who as residents in the locality where the work was being carried on have greatly assisted by furnishing important information or willing services.

CHARTS AND MAPS.

CHARTS OF NATURAL OYSTER BARS.[1]

The charts of the natural oyster bars of Dorchester County published by the Coast and Geodetic Survey from results of the surveys of the Government in cooperation with the Maryland Shell Fish Commission consist of eight sheets covering all the oyster-producing waters of that county. They are published on the large scale of 1 part in 20,000 (approximately $3\frac{1}{16}$ inches to a statute mile) and are constructed on polyconic projections; and all information shown on them is based on the United States standard datum of the Coast and Geodetic Survey.

These charts show all oyster bars and other boundaries established by the Commission, and are certified for the purpose of filing in the office of the clerk of the circuit court of Dorchester County and in the office of the Maryland Shell Fish Commission, as required by the oyster laws of Maryland.

In addition to the oyster bar and other boundaries, the charts show the location and name of all landmarks (United States Coast and Geodetic Survey triangulation stations) used in making the survey, together with the hydrography and topography [2] necessary to make the technical definitions and delineations of boundaries readily understandable both by the people engaged in the oyster industry and the general public who may become interested through leasing of barren bottoms for oyster culture.

The names of the oyster bars are those used locally, as nearly as could be ascertained by the hydrographic engineer of the Commission. When there was no local name in common use, a name was selected from one of the prominent features of the vicinity. By the use of recognized names or those that would naturally suggest certain sections of water, it is believed that much confusion will be avoided in the location on the charts of the oyster bars, especially by those not familiar with the use of maps.

The corners of the oyster bars are numbered from 1 to the total number of corners in each area under consideration. Where boundaries adjoin, making one point a corner of two or more oyster bars, these points have two or more numbers, each number corresponding to the bar in which the figure is located. The numbers of the corners correspond with the technical and legal descriptions of this publication under the heading "Boundaries of natural oyster bars."

The landmarks and oyster bars have been grouped in the "Contents" of this publication in accordance with the charts upon which they are shown. To find a particular oyster bar or landmark which is only known by name, consult the "Contents" and the desired chart and general location will be indicated. To find the name of a bar or landmark which is only known by location, consult the progress map at the end of this publication for the number of the chart on which it is to be found, and then examine the known locality on the chart for the name of the bar or landmark in question.

[1] These charts can be obtained by application to the Superintendent of the Coast and Geodetic Survey, at Washington, D. C.

[2] Much of the detail of the inshore topography was obtained from the excellent map of Dorchester County, prepared and published by the Maryland Geological Survey under the direction of Dr. William Bullock Clark from surveys of the Maryland Geological Survey in cooperation with the United States Geological Survey.

The contours on the charts showing the depth of water at mean low tide have been taken from the hydrographic sheets of former work of the Coast and Geodetic Survey. Four curves were selected as being the most convenient for taking off from the original hydrographic sheets and the ones of greatest value to those interested in shell fish industries. The 1-fathom contour (6 feet) and the 5-fathom curve (30 feet) correspond in a general way to the inner and outer limits of all the oyster bars surveyed. The 3-fathom contour (18 feet) furnishes the curve of about the average depth of water on the oyster bars, and the 10-fathom contour (60 feet) serves in a general way to indicate the outer limits of probable oyster culture.

The boundaries of the waters within the "territorial limits of the county" and the boundaries of the "waters contiguous to the county" opened up for the leasing with Dorchester County are plainly indicated on the charts. A full technical description of these boundaries is given in this publication under the heading "Boundaries of county waters."

The areas in acres of the oyster bars were determined under the direction of the hydrographic engineer of the Commission by two independent planimeter measurements of the areas as delineated on the smooth projections of the Coast and Geodetic Survey. These areas are given in small figures in parentheses on the face of the chart within the boundaries of the different shell fish bottoms.

The symbols used on the charts for the different kinds of boundaries, triangulation stations, contours of depth of water, etc., require no other explanation than that given in the legend and other notes on the face of the charts.

LEASING CHARTS.

The leasing charts of Dorchester County, like those for Anne Arundel, Somerset, Wicomico, Worcester, Calvert, Charles, St. Marys, Baltimore, Kent, Queen Annes and Talbot counties, have been prepared under the direction of the hydrographic engineer of the Commission. They are constructed on polyconic projections on the scales of 1 part in 5,000 or 1 part in 10,000 as the needs of oyster culture may require, and the information shown on them is based on the United States standard datum of the Coast and Geodetic Survey.

These charts show all the oyster bars, crab bottoms, and clam beds and other boundaries established by the Commission, and also all boundaries of oyster lots leased for the purpose of oyster culture, thus making them comprehensive and valuable records of the results of the operations of the oyster-culture laws.

The lots leased under the provision of the "old 5-acre law" are frequently of irregular shape, but the lots leased under the provision of the new oyster laws must be of rectangular shape by the terms of that act. For this latter purpose the leasing charts have been divided by parallels of latitude and meridians of longitude into small rectangles of 1 acre or 5 acres, as may be best suited to the area under consideration, and prospective leaseholders by the rules of the Commission are compelled to select whole rectangles as far as possible.

For reasons of the present changeable nature of the number of lots leased and the large number of charts required, the leasing charts are not likely to be published for some years, but they can be seen at any time on file at the offices of the Commission, in the Marine Bank Building at Baltimore.

PROJECTIONS.

The polyconic projections [1] covering Dorchester County waters are 21 in number and on the scale of 1 part in 10,000. They were constructed by draftsmen of the Coast and Geodetic Survey, but the sextant positions which determine the location of the legal boundaries of the oyster bars as delineated by the Shell Fish Commission were plotted by the draftsman of the Commission.

A copy of each of these projections, with all the plotted positions of triangulation stations, shore line, sextant positions, and boundaries of oyster bars, was made under the direction of the hydrographic engineer of the Commission by pricking through with a sharp needle the intersections of the projection lines and all other points as plotted on the original sheets.

These projections (in duplicate) are the original records of all oyster bar and other boundaries established by the Commission, one set being filed in the archives of the Coast and Geodetic Survey, at Washington, and the other set in the archives of the Shell Fish Commission.

PROGRESS MAPS.

The progress map to be found at the end of this publication is on a scale of 1 part in 100,000, and shows in outline the work accomplished by the United States Coast and Geodetic Survey in Dorchester County and contiguous waters. It gives the scheme of all the charts and smooth projections constructed in connection with the survey, the location and names of all triangulation stations used as a basis for the surveying work, and the "boundaries of county waters" established by the Commission for the purpose of carrying out the laws of Maryland relating to oyster culture.

Besides indicating the amount of work done by the Coast and Geodetic Survey in connection with the work of the Shell Fish Commission, this progress map will be of special value for index purposes to engineers and others searching for the particular chart or projection covering the locality of the oyster bars or landmarks that may be under consideration.

The progress maps [2] accompanying the first and second annual reports of the Maryland Shell Fish Commission were prepared under the direction of the hydrographic engineer of the Commission. They are on the scale of 1 part in 400,000, and show the outline of the tide-water counties of Maryland, with shaded areas to indicate the waters already covered by the operations of the oyster survey.

[1] For the scheme of these projections see the progress map at the end of this publication.

[2] These maps and reports can be obtained by application to Maryland Shell Fish Commission, Marine Bank Building, Baltimore, Md.

BOUNDARIES OF THE COUNTY WATERS.[1]

WATERS WITHIN TERRITORIAL LIMITS OF COUNTY.

The laws of Maryland relating to oyster culture provide that "no person shall be permitted, by lease, assignment, or in any other manner, to acquire a greater amount of land than ten acres situated within the territorial limits of any of the counties, or one hundred acres in any other place."

The boundary line[2] between the waters "within the territorial limits" of Dorchester County and the waters in "any other place," as established by the Shell Fish Commission for the purpose of carrying out the oyster laws, and delineated on the "oyster" charts and the smooth projections of the Coast and Geodetic Survey, is technically described and defined as follows:[3]

Commencing at the head of the oyster-producing waters of Choptank River on the channel boundary line between Dorchester County and Talbot County; thence following the channel boundary line between Talbot County and Dorchester County down the upper Choptank River to a point situated about half way between the town of Choptank and Cabin Creek; thence continuing down the channel boundary line of the upper Choptank River as laid down on "Chart No. 35, Natural Oyster Bars, Maryland" around Chancellors Point and pass the city of Cambridge to the entrance of upper Choptank River between Castle Haven Point and Island Creek; thence along the boundary line between Talbot County and Dorchester County in the lower Choptank River as laid down on "Charts Nos. 36 and 37, Natural Oyster Bars, Maryland," to a point in the Chesapeake Bay entrance of the lower Choptank River defined by the intersection of this boundary line with a straight line defined at its northwestern end by a point situated on Blackwalnut Point in latitude 38° 40′ 06.6″ and longitude 76° 20′ 24.7″ and defined at its southeastern end by a point situated on Cook Point in latitude 38° 37′ 55.7″ and longitude 76° 17′ 28.7″; thence in a straight line across the southeastern half of the Chesapeake Bay entrance of the lower Choptank River to a point situated on Cook Point defined by latitude 38° 37′ 55.7″ and longitude 76° 17′ 28.7″; thence in a southeasterly direction along the mean low-water line or across the mouth of all inlets less than 100 yards in width, as the case may be, of the eastern shore of Chesapeake Bay to a point situated on the northern side of Tripps Bay defined by latitude 38° 36′ 10.4″ and longitude 76° 16′ 21.8″; thence in a straight line across the eastern end of Tripps Bay to a point situated on the southern side of the eastern end of Tripps Bay defined by latitude 38° 35′ 52.7″ and longitude 76° 16′ 05.1″; thence in a southwesterly direction along the mean low-water line or across the mouth of all inlets less than 100 yards in width, as the case may be, of the eastern shore of Chesapeake Bay to a point situated on the northeastern side of the entrance of Brannock Bay defined by latitude 38° 35′ 33.0″ and longitude 76° 16′ 23.8″; thence in a straight line across the entrance of Brannock Bay to a point situated on Mills Point on the southwestern side of the entrance of Brannock Bay defined by latitude 38° 35′ 07.2″ and longitude 76° 17′ 13.2″; thence in a southwesterly direction along the mean low-water line or across the mouth of all inlets less than 100 yards in width, as the case may be, of the eastern shore of Chesapeake Bay to a point situated on Hills Point on the northern side of the entrance of Little Choptank River defined by latitude 38° 33′ 48.6″ and longitude 76° 18′ 41.8″; thence in a straight line across the entrance of Little Choptank River to a point situated on James Island on the southern side of Little Choptank River defined by latitude 38° 31′ 44.9″ and longitude 76° 20′ 01.9″; thence following the northern and western side of James Island along the mean low-water line or across the mouth of all inlets less than

[1] For a complete historical and legal description of the boundaries of the counties of Maryland, the valuable publication entitled "The Counties of Maryland—Their Origin, Boundaries, and Election Districts," prepared by Dr. Edward B. Mathews and published by the Maryland Geological Survey under the direction of Dr. William Bullock Clark, superintendent, should be consulted, as the boundaries described in this publication have been established and technically defined for the purpose of carrying out the oyster laws of the State, and may or may not be correct for other purposes.

[2] See "Charts of Natural Oyster Bars," published by the Coast and Geodetic Survey, and the progress map at the end of this publication.

[3] Latitudes and longitudes based on the United States standard datum of the United States Coast and Geodetic Survey.

100 yards in width, as the case may be, of the eastern shore of Chesapeake Bay to a point situated on the southern end of James Island defined by latitude 38° 30′ 07.6″ and longitude 76° 20′ 19.3″; thence in a straight line across the entrance of Oyster Creek to a point situated on the southern side of the entrance of Oyster Creek defined by latitude 38° 29′ 51.9″ and longitude 76° 20′ 25.4″; thence in a southeasterly direction along the mean low-water line across the mouth of all inlets less than 100 yards in width, as the case may be, along the eastern shore of Chesapeake Bay across the entrance of Punch Island Creek to a point situated on the northern side of the entrance between two marsh islands into the extreme northern end of Tar Bay defined by latitude 38° 22′ 48.6″ and longitude 76° 16′ 46.7″; thence in a straight line across the entrance of the northern end of Tar Bay to a point situated on the northern end of a marsh island defined by latitude 38° 22′ 33.6″ and longitude 76° 16′ 45.0″; thence in a southerly direction following the western side of a marsh island along the mean low water line or across the mouth of all inlets less than 100 yards in width, as the case may be, of the eastern shore of Chesapeake Bay to a point situated on the southern end of a marsh island on the northern side of the main northern entrance of Tar Bay defined by latitude 38° 21′ 49.2″ and longitude 76° 16′ 31.0″; thence in a straight line across the main northern entrance of Tar Bay to a point situated on the northern end of Barren Island defined by latitude 38° 20′ 53.4″ and longitude 76° 16′ 01.5″; thence following the western and southern side of Barren Island along the mean low-water line or across the mouth of all inlets less than 100 yards in width, as the case may be, to a point situated on the southern end of Barren Island defined by latitude 38° 18′ 39.8″ and longitude 76° 14′ 37.5″; thence in a straight line across the southern entrance of Tar Bay to a point situated on Pons Point on the western side of Upper Hooper Island defined by latitude 38° 18′ 24.0″ and longitude 76° 13′ 27.5″; thence in a southeasterly direction following the western side of Upper Hooper Island, Middle Hooper Island, and Lower Hooper Island along the mean low-water line or across the causeways and bridges connecting these islands and the mouths of all inlets less than 100 yards in width, as the case may be, of the eastern shore of Chesapeake Bay to a point situated on the southern side of Lower Hooper Island on the northwestern side of the entrance of Hooper Strait defined by latitude 38° 13′ 57.7″ and longitude 76° 07′ 56.5″; thence in a straight line across the Chesapeake Bay entrance of Hooper Strait to a point situated on the northwestern side Bloodsworth Island on the southern side of the entrance of Hooper Strait defined by latitude 38° 11′ 40.6″ and longitude 76° 05′ 25.2″; thence in a southerly direction following the western side of Bloodsworth Island along the mean low-water line or across the mouth of all inlets less than 100 yards in width, as the case may be, to a point situated on the southwestern end of a part of Bloodsworth Island known as Billys Island defined by latitude 38° 00′ 23.8″ and longitude 76° 05′ 09.1″; thence in a straight line across the channel between Billys Island and Adam Island to a point situated on the northern end of Adam Island defined by latitude 38° 00′ 14.7″ and longitude 76° 05′ 14.0″; thence following the northern and western side of Adam Island along the mean low-water line or across the mouth of all inlets less than 100 yards in width, as the case may be, of the eastern shore of Chesapeake Bay to a point situated on the southern end of Adam Island defined by latitude 38° 08′ 16.4″ and longitude 76° 05′ 09.0″; thence in a straight line across the channel between Adam Island and Holland Island to a point on the northern end of Holland Island defined by latitude 38° 08′ 06.6″ and longitude 76° 05′ 27.8″; thence in a southerly direction following the western side of Holland Island along the mean low-water line or across the mouth of all inlets less than 100 yards in width, as the case may be, to a point on the southern end of Holland Island defined by latitude 38° 06′ 36.4″; and longitude 76° 05′ 31.6″; thence in a straight line to a point situated on the boundary line between Dorchester County and Somerset County on the southern side of the Chesapeake Bay entrance of Holland Straits about 1½ miles north-northeast of Holland Island Bar Light defined by latitude 38° 04′ 40.8″ and longitude 76° 04′ 14.8″; thence in a straight line along the Holland Straits boundary line between Dorchester County and Somerset County to a point on the western side of Pry Island on the eastern side of Holland Straits defined by latitude 38° 05′ 44.1″ and longitude 76° 03′ 44.6″; thence in a straight line along the Holland Straits boundary line between Dorchester County and Somerset County across the mouth of Pry Cove to a point on the western side of a small marsh island on the eastern side of Holland Straits defined by latitude 38° 06′ 39.9″ and longitude 76° 03′ 17.8″; thence in a straight line diagonally across Holland Straits along the boundary line between Dorchester County and Somerset County to a point on the southeastern side of Bloodsworth Island on the northwestern side of Holland Straits defined by latitude 38° 08′ 50.6″ and longitude 76° 01′ 53.4″; thence in a straight line across the western half of Upper Tangier Sound along the boundary line between Dorchester County and Somerset County to a point situated in Tangier Sound about 1⅝ miles west of upper land end of Deal Island Wharf and 2⅛

miles south by east of Sharkfin Shoal Light defined by latitude 38° 10′ 08.1″ and longitude 76° 58′ 40.6″; thence in a straight line along the Tangier Sound boundary line between Dorchester County and Somerset County to a point in Tangier Sound entrance of Nanticoke and Wicomico Rivers situated about ⅞ mile east-southeast of Sharkfin Shoal Light defined by latitude 38° 11′ 50.3″ and longitude 75° 58′ 20.8″ thence along the boundary line between Dorchester County and Somerset County, up the channel of Nanticoke River, pass Roaring Point and Ragged Point to a point on the channel boundary line between Dorchester County and Somerset County situated about 2 miles north of the town of Bivalve, all as laid down on "Chart No. 41, Natural Oyster Bars, Maryland," thence continuing up the Nanticoke River along the channel boundary line between Dorchester County and Somerset County to the head of the oyster-producing waters.

WATERS CONTIGUOUS TO COUNTY.

The oyster laws of Maryland provide that a true and accurate delineation of all natural oyster bars shall be made on copies of charts of the United States Coast and Geodetic Survey, "which said copies shall be filed in the office of the said Commissioners in the city of Baltimore," and "in the office of the clerks of the circuit courts for the respective counties wherein the grounds so designated may lie."

For the purpose of carrying out the latter part of this section of the law and for the purpose of establishing the limits of the oyster-culture area to be opened up for leasing with each county surveyed, it is necessary for the Shell Fish Commission to establish a boundary line between the waters contiguous to but not within the territorial limits of each county and the waters contiguous to but not within the territorial limits of adjacent counties.

This boundary line has been delineated on the "Charts of Natural Oyster Bars," published by the Coast and Geodetic Survey, and is technically described and defined as follows:[1]

Commencing at a point in the Chesapeake Bay entrance of the lower Choptank River defined by the intersection of the boundary line between Dorchester County and Talbot County as laid down on "Charts Nos. 36 and 37, Natural Oyster Bars, Maryland," with a straight line defined at its northwestern end by a point situated on Blackwalnut Point in latitude 38° 40′ 06.6″ and longitude 76° 20′ 24.7″ and defined at its southeastern end by a point situated on Cook Point in latitude 38° 37′ 55.7″ and longitude 76° 17′ 28.7″; thence along the boundary line between Dorchester County and Talbot County passing into Chesapeake Bay south of Sharps Island as laid down on "Charts Nos. 36 and 37, Natural Oyster Bars, Maryland," to a point in Chesapeake Bay about 5½ miles southwest of Sharps Island Light and 5¾ miles northwest of James Island defined by latitude 38° 34′ 29.6″ and longitude 76° 26′ 17.0″; thence in a straight line in a southerly direction with Chesapeake Bay to a point situated in Chesapeake Bay about 4½ miles west of the southern end of James Island defined by latitude 38° 30′ 00.0″ and longitude 76° 25′ 30.0″; thence in a straight line in a southeasterly direction with Chesapeake Bay to a point situated in Chesapeake Bay about 2⅝ miles east of Cove Point Light defined by latitude 38° 23′ 10.3″ and longitude 76° 20′ 00.0″; thence in a straight line in a southerly direction with Chesapeake Bay to a point situated in Chesapeake Bay about 3⅛ miles northeast of Cedar Point Light defined by latitude 38° 19′ 37.7″ and longitude 76° 19′ 19.0″; thence in a straight line in a southerly direction with Chesapeake Bay to a point situated in Chesapeake Bay about 2¾ miles east of Cedar Point Light defined by latitude 38° 17′ 58.0″ and longitude 76° 18′ 59.7″; thence in a straight line in a southeasterly direction with Chesapeake Bay to a point situated in Chesapeake Bay about 5⅝ miles west of Holland Island Bar Light in latitude 38° 04′ 34.8″ and longitude 76° 12′ 01.0″; thence in a straight line in an easterly direction across the eastern half of Chesapeake Bay to a point situated on Holland Island Bar Light defined by latitude 38° 04′ 07.3″ and longitude 76° 05′ 45.9″; thence in a straight line in a northeasterly direction toward the entrance of Holland Straits to a point situated about 1½ miles north-northeast of Holland Island Bar Light on the boundary line between Dorchester County and Somerset County on the southern side of the Chesapeake Bay entrance of Holland Straits defined by latitude 38° 04′ 40.8″ and longitude 76° 04′ 14.8″.

[1] Latitudes and longitudes based on the United States standard datum of the United States Coast and Geodetic Survey.

LANDMARKS (U. S. COAST AND GEODETIC SURVEY TRIANGULATION STATIONS).

EXPLANATION.

The oyster laws of Maryland authorizing the survey to be made by the Shell Fish Commission provide for "an accurate report of said survey, setting forth such a description of landmarks as may be necessary to enable the said board, or their successors, to find and ascertain the boundary lines of said natural oyster beds, bars, and rocks, as shown by delineation on the maps and charts." The law of the United States authorizing the cooperation of the Department of Commerce and Labor in the survey of natural oyster bars of Maryland provides for the erection of "such structures as may be necessary to mark the points of triangulation, so that the same may be used for such future work of the Coast and Geodetic Survey as the said bureau may be hereafter required to perform in prosecuting the Government coast survey of the navigable waters of the United States located within the State of Maryland."

Under the provisions of the sections of the laws stated above, the markings and descriptions of landmarks must be sufficient for the present and future needs of both the Government and the State. With this end in view, considerable work has been expended in erecting permanent monuments at the triangulation stations and in the proper description of their location.

An effort has been made to arrange the descriptions of location and character of landmarks in a uniform and logical manner. The descriptions start with the assumption that the individual seeking a landmark has only an indefinite idea of its location. They gradually proceed from description of the general locality of a landmark to the descriptions of its immediate surroundings. This is followed by specific details of the character of the center and reference marks and a "round" of reference angles and distances which in themselves frequently contain enough information to furnish an independent and reliable location of the triangulation station.

METHOD OF DESCRIBING TRIANGULATION STATIONS.

The separate descriptions of triangulation stations should not be used without reading the following explanation of the method of describing the triangulation stations, as it contains certain details that are common to all the landmarks described in this publication and which are omitted in the separate descriptions as being needless repetitions:

Name.—The title at the top of each separate description is the name by which the landmark or triangulation station is known and designated in all work and published oyster records or oyster charts of both the Government and State. The selection of the name is usually left to the triangulator establishing the station, and it may or may not have geographic or other significance in reference to the locality.

General locality.—Under this heading is given the general locality of the landmark in reference to well-known and prominent natural or artificial features, such as the nearest body of water, town, river, steamer wharf, well-defined point of land, church, or any other feature that is likely to remain both permanent and prominent.

This heading also covers a reference to the published chart or map which shows the location of the station most clearly. Nearly all the triangulation stations described in this publication are plainly indicated by name and a triangulation symbol on the published charts of oyster bars of Maryland. In this case they are referred to by serial number only, the words "charts of oyster bars of Maryland" being omitted to avoid needless repetition. These published oyster charts are on the large scale of 1 part in 20,000 (approximately 3⅓ inches to a statute mile) and show the locations of the triangulation stations so clearly that in many cases the written descriptions will not be required to find them.

Immediate locality.—Under this heading is given the description of the "observed station" in reference to its immediate surroundings. This is supposed to include a statement of the station's estimated elevation above high water or some other well-defined level of the locality, such as a road or house; the character of the ground on which it is located, such as marsh land, sand beach, cultivated field, or meadow; estimated bearings in points of the compass and estimated distances in yards *from* (*not to*) easily recognized features, such as extreme end of point, edge of bluff, bank of creek, line of telephone poles, shore line, barn, house, fence, ditch, trees, or any other definite detail, such as being on range with the tangent of an island and a church; and so forth.

When a standard monument has been established near the station as a "reference station," this heading also covers a statement of the true bearing of the monument in degrees and minutes and its measured distance in meters, as it is the first object that is likely to catch the eye when the immediate vicinity of the desired station is reached and might be mistaken for the center mark of the "observed station" unless special attention is called to it.

The distinction between the "observed station" and "reference station" should be carefully noted by anyone making use of the description of stations for any future surveying operations.

The "observed station" is located at the particular triangulation point covered by the description of stations and is the one whose geographic position is first computed, as it is the point which was "occupied" and "observed on" for horizontal angles. However, in spite of the primary importance of the location of the "observed station," it will be noted from the description of stations that frequently it is not marked as well as the "reference station," and in some instances has only a pine stub to indicate its position. This is the case for the reason that the necessity of intervisibility of landmarks usually made it compulsory to locate "observed stations" on edges of banks and ends of points of land, which in the tidewater section of Maryland generally means they will be washed away in a short period of years. The past experience of the Coast and Geodetic Survey in this region has shown the great need of "reference stations," if the frequent reestablishment of a new framework of triangulation is to be avoided.

The chief reason and need for the establishment of the "reference station," or secondary station, as it might be well named, is explained in the preceding paragraph, but in several instances other reasons, such as the location of the "observed station" on an unstable sand dune, in a cultivated field, in front of a residence, or other places objectionable to the landowner, have led to establishment of "reference stations." The location of the "reference station" in relation to the "observed station" is fixed

for plotting on charts or for computation of its geographic position by checked measurements of its distances and azimuth from the "observed station." [1]

Marks.—Under this heading is given a description of the character of the permanent monuments or other marks of the location of the "observed station," and of the "reference station" where one has been established.

All the marks designated in the descriptions as "the center point of triangle on standard cement monument" are exactly alike. These monuments are made of cement, sand, and gravel, and are 2 feet long and 8 inches square at top and bottom. Their tops are all marked with the same brass mold and show a center hole surrounded by a triangle, with the letters "M. S. F. C." arranged around the vertex and the letters "U. S. C. S." underneath the base of the triangle. The center hole is always in the center of the top of the monument by construction, and if this is found to have been broken off without disturbing the bottom the center of its square section can be used as the location of the station.

All the "standard cement monuments," whether used for marking the "observed station" or "reference station," have been planted upright in exactly the same manner, with their tops projecting 3 or 4 inches above the surface of the ground, unless otherwise stated.

Therefore, as the above facts in reference to the "standard cement monuments" are a constant element in all cases, the repetition of these facts in the description of stations is made needless by this one statement.

References.—Under this heading are given the "rounds" of directions and distances to all objects that might be useful in locating the stations when the surface marks can not be found. It is also contemplated that for general purposes of topography, hydrography, or location of boundaries of oyster bars these references will be sufficient in many cases to relocate the position of an "observed station" or "reference station" when both of them have been destroyed.

The first reference object given in the descriptions is always a triangulation station visible from the station being described, this, if possible, being a lighthouse, church spire, or other permanent and prominent point. Its direction is taken as being 0° 00′ 00″, and the directions of all other objects are measured from it as an initial point, the angles being taken in a clockwise direction (left to right).

The true bearing [2] of the initial object is always given in parentheses alongside its name. This furnishes means for the calculation of the bearings of any of the other reference objects for the purposes of locating a station by horizontal angles or for the relocation of corner buoys of oyster-bar boundaries by the method of compass directions described in this publication under the heading of "Boundaries of oyster bars."

The distances in the last column under "References" are given in three different units, which vary according to their accuracy. The "miles" are statute miles and may be considered only as rough estimates. The "yards" are more accurate, but must be looked on as results generally obtained by pacing or careful estimating. The "meters,"

[1] Geographic coordinates (latitude, longitude, distance, and azimuth) relating to any of the "observed stations" or of the "reference stations" described in this publication can be obtained by application to the Superintendent of the Coast and Geodetic Survey, at Washington, D. C.

[2] The mean magnetic variation for Dorchester County was 6° 00′ west of north in 1911 and increasing at the rate of 5′ yearly.

however, are accurate to the degree indicated by their decimals and in every case have been measured with a steel tape. In the same manner the accuracy of the directions are indicated by the refinement of angular measure with which they are recorded.

DESCRIPTIONS OF TRIANGULATION STATIONS.

WEATHER BUREAU STAFF.

General locality.—Eastern side of Tred Avon River in the town of Oxford. (See Chart No. 35.)

Immediate locality.—Observed station is in park south of high and primary schools, 55 yards east of shore of Tred Avon River, 55 yards west of Morris Street, and in center of circle of trees.

Marks.—Observed station is center of galvanized iron staff on square galvanized angle-iron tower.

References.—None necessary.

FIRST.

General locality.—Eastern shore of Tred Avon River in town of Oxford about 1/8 mile north of railroad wharves. (See Chart No. 35.)

Immediate locality.—Observed station is about 8 feet above high water, 2 yards east-southeast of edge of bank, 4 yards east by north of point of bank, 4 yards northeast of edge of bank at small gully, 2 yards south of corner fence post, and 35 yards west of house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Bach" (S 17° 38′ W)	0	00	00	5/8 mile.
Right peak of small house	51	59	..	1 5/8 miles.
Right peak of modern house	67	10	..	1 5/8 miles.
Left peak of small house	128	37	..	1 1/8 miles.
Nail in blaze in fence post	207	52	00	4.98 meters.
Nail in blaze in apple tree (20 inches diameter)	237	43	30	11.94 meters.
Nail in blaze in apple tree (12 inches diameter)	266	24	50	14.56 meters.
Windmill	346	43	..	1/4 mile.

BACH.

General locality.—Eastern shore of entrance to Tred Avon River on Bachelor Point about 1 3/8 miles north-northeast of Choptank River Light. (See Chart No. 35.)

Immediate locality.—Observed station is in cultivated field about 6 feet above high water, 30 yards east of edge of bank, 70 yards north-northeast of edge of bank on range with Choptank River Light, and 100 yards south by west of edge of bank of trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Choptank River Light" (S 16° 59′ W)	0	00	00	1 3/8 miles.
Tangent of Benoni Point	55	29	..	1 1/4 miles.
Left peak of roof of house	147	25	..	1 5/8 miles.
Left corner of burnt house	166	05	..	1 1/8 miles.
Right corner of house	211	35	..	1/4 mile.
Left corner of left chimney on very large house	240	46	..	5/8 mile.
"Large Water Tank"	338	00	20	2 3/4 miles.

BOONE.

General locality.—Northeastern shore of Choptank River about ⅜ mile northwest of entrance to Boone Creek, ½ mile southeast of Bachelor Point, and 1⅛ miles northeast of Choptank River Light. (See Chart No. 35.)

Immediate locality.—Observed station is about 5 feet above high water, 13 yards northeast of edge of tree-fringed bank, 60 yards south-southwest of right corner of house, and 50 yards south-southeast of large apple tree.

Marks.—Observed station is center point of triangle on standard cement monument with top 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Choptank River Light" (S 33° 54′ W)	0	00	00	1¼ miles.
Nail in blaze in locust tree (5 inches diameter)	21	01	40	10.26 meters.
Nail in blaze in locust tree (10 inches diameter)	65	31	10	20.59 meters.
Near peak of house	107	59	..	¼ mile.
Right corner of house	159	12	..	57 yards.
Near peak of house	195	28	..	¾ mile.
Nail in blaze in locust tree (4 inches diameter)	323	14	00	13.02 meters.

ENTER.

General locality.—Northern shore of Island Creek on point at east side of entrance to a small cove, about ⅛ mile northeast of Choptank River, and 1⅜ miles east-northeast of Choptank River Light. (See Chart No. 35.)

Immediate locality.—Observed station is in cultivated land about 6 feet above high water, 16 yards north of edge of bank of creek, 18 yards south-southeast of edge of bank of cove, 30 yards east-northeast of outlet of cove, and 250 yards west by south of frame house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Choptank River Light" (S 72° 00′ W)	0	00	00	1⅜ miles.
Nail in blaze in locust tree (6 inches diameter)	67	05	40	39.96 meters.
Nail in blaze in cedar tree (10 inches diameter)	109	17	20	16.91 meters.
Left corner of left chimney of house	117	35	..	2 miles.
Left corner of house	173	35	..	⅛ mile.
Near corner of house	204	11	..	1½ miles.
"Large Water Tank"	301	37	00	2½ miles.
Nail in blaze in locust tree (4 inches diameter)	357	13	40	23.93 meters.

LANDEYE.

General locality.—Northeastern shore of Choptank River on point at south side of entrance to Island Creek, about 1¼ miles east of Choptank River Light. (See Chart No. 35.)

Immediate locality.—Observed station is in cultivated land about 5 feet above high water, 15 yards east-southeast of edge of bank, 50 yards southwest of fringe of trees and bushes, 55 yards south-southwest of point of field and end of fringe of trees and bushes.

Marks.—Observed station is center point of triangle on standard cement monument projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2-inches below base of monument.

References.—

	°	′	″		
"Choptank River Light" (S 83° 39′ W)	0	00	00	.....	1¼ miles.
Chimney of house near Bachelors Point	48	33	..	.....	1¼ miles.
Left corner of barn	122	21	..	.....	¾ mile.
Left corner of barn	230	18	..	.....	¾ mile.
"Large Water Tank"	297	25	50	.....	2⅜ miles.

CHOPTANK RIVER LIGHT.

General locality.—In Choptank River about 1¼ miles southeast of Benoni Point, 1 mile south of entrance to Tred Avon River, and 8½ miles east of Blackwalnut Point. (See Charts Nos. 35 and 37.)

Immediate locality.—Observed station is on hexagonal screw-pile structure known as Choptank River Light House.

Marks.—Observed station is center of lantern on Choptank River Light House.

References.—

	°	′	″		
Chlora (S. 57° 04′ E)	0	00	00	.....	2⅜ miles.

BENONI 2.

General locality.—Northern shore of Choptank River on Benoni Point at western side of entrance to Tred Avon River, about 1⅜ miles northwest of Choptank River Light. (See Progress map.)

Immediate locality.—Observed station is about 5 feet above high water, 9 yards south-southwest of foot of knoll and edge of marsh, 4 yards northeast of edge of bank, 25 yards east-southeast of point of bank, 30 yards north by west of point of marsh, and 100 yards southwest of a cove. Cement monument marking reference station is 7.45 meters N. 42° 02′ E of observed station.

Marks.—Observed station is nail in center of 2 by 4 inch stub projecting 4 inches above a 4-inch tile pipe with top of pipe flush with surface of ground. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—

	°	′	″		
"Choptank River Light" (S 40° 01′ E)	0	00	00	.....	1¼ miles.
"Large Water Tank"	13	10	20	.....	3½ miles.
Left corner of house	65	40	..	.....	4½ miles.
Nail in blaze in waterbush	181	09	10	.....	7.68 meters.
Nail in blaze in water bush	231	34	40	.....	4.54 meters.
Near peak of small house	245	50	..	.....	1¾ miles.
Left corner of burnt house	261	14	..	.....	2 miles.
REFERENCE STATION	262	02	40	.....	7.45 meters.
Peak of near gable of large house	277	30	..	.....	1¾ miles.
Nail in blaze in waterbush	288	09	40	.....	10.40 meters.
Left corner of house	306	56	..	.....	1⅜ miles.

CHLORA.

General locality.—Northeastern shore of Choptank River on Chlora Point about 1½ miles south-southeast of entrance to Island Creek, 1¼ miles northwest of entrance to LaTrappe Creek, and 2⅜ miles southeast of Choptank River Light. (See Chart No. 35.)

Immediate locality.—Observed station is about 8 feet above high water, 6 yards east-northeast of edge of bank, 9 yards south of wire fence, and 18 yards north of edge of bank at walnut tree. Cement monument marking reference station is 6.91 meters N. 78° 43′ E of observed station.

Marks.—Observed station is hole in center of cement filled tile pipe 4 inches diameter, with top about 2 inches below surface of ground. Reference station is center point of triangle on standard cement monument projecting 4 inches above the surface of the ground.

References.—

	°	′	″		
"Choptank River Light" (N 57 03′ W)	0	00	00	.....	2⅜ miles.
Nail in blaze in wild cherry tree (3 inches diameter)	74	39	10	.....	3.11 meters.
Nail in blaze in cedar tree (4 inches diameter)	129	31	00	.....	9.01 meters.

References—Continued.	°	′	″		
REFERENCE STATION	135	46	10	.....	6.91 meters.
Nail in blaze in walnut tree (14 inches diameter)	220	12	10	.....	16.70 meters.
Near peak of house	254	53	..	.....	3 miles.
Spindle on cupola	267	24	..	.....	2⅜ miles.
"Large Water Tank"	294	46	30	.....	1½ miles.

TRAPPE.

General locality.—Northern shore of Choptank River at west side of entrance to La Trappe Creek about 1½ miles southeast of Chlora Point. (See Chart No. 35.)

Immediate locality.—Observed station is on grassy gravel point about 3 feet above high water, 4 yards north of shore, 6 yards east-northeast of shore, and 17 yards south by east of large cedar tree. Cement monument marking reference station is 12.62 meters N 47° 40′ E of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 2 inches above surface of ground.

References.—	°	′	″		
"Lan" (N 25° 07′ E)	0	00	00	.....	½ mile.
Cedar tree	11	05	..	.....	35 yards.
Red Beacon	96	50	00	.....	¼ mile.
Right chimney of house	130	16	..	.....	3 miles.
"Black Beacon"	145	54	40	.....	¼ mile.
Northerly peak of Travers Wharf house	196	15	..	.....	2⅞ miles.
Center of smaller water tank	241	02	..	.....	2⅝ miles.
"Large Water Tank"	241	44	30	.....	2⅝ miles.
Nail in blaze in cedar tree (20 inches diameter)	294	50	50	.....	7.23 meters.
REFERENCE STATION	350	06	40	.....	12.62 meters.
Nail in blaze in cedar tree (22 inches diameter)	353	23	40	.....	15.99 meters.

GRUBIN.

General locality.—Northern shore of Choptank River on east side of entrance to La Trappe Creek. (See Chart No. 35.)

Immediate locality.—Observed station is on grassy marsh back of gravel beach, about 1 foot above high water, 13 yards east of shore, 13 yards south of shore, 20 yards southeast of extreme end of point, and 100 yards northwest of pond.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Howard" (S 1° 21′ W)	0	00	00	.....	2⅞ miles.
South peak of Travers Wharf house	45	02	..	.....	3 miles.
"Black Beacon"	51	56	10	.....	¼ mile.
Center of smaller water tower	86	56	..	.....	3 miles.
"Large Water Tank"	87	49	30	.....	2⅞ miles.
Red Beacon	90	47	10	.....	¼ mile.
South peak of shed	153	07	..	.....	⅝ mile.
Near peak of barn	181	58	..	.....	⅝ mile.
Nail in blaze in stump (7 inches diameter)	194	47	40	.....	12 17 meters.
Chimney of house	199	51	..	.....	⅜ mile.
Nail in blaze in cedar tree (5 inches diameter)	225	34	30	.....	12.04 meters.

BLACK BEACON.

General locality.—Northeastern shore of Choptank River off entrance to La Trappe Creek about 1⅝ miles northeast of Horn Point. (See Chart No. 35.)

Immediate locality.—Observed station is on a cylindrical foundation known as La Trappe Creek Outer Light.

Marks.—Observed station is center point of lantern on La Trappe Creek Outer Light.

References.—None necessary.

HOWELLS.

General locality.—Northern shore of Choptank River on Howells Point about 1⅝ miles east of Horn Point, 2 miles north of entrance to Jenkins Creek, and 2 miles northwest of Hambrooks Bar Beacon. (See Chart No. 35.)

Immediate locality.—Observed station is on a long grassy gravel point about 3 feet above high water, 50 yards south-southeast of old fish shanty and trees, 25 yards south of highest level part of land, 11 yards west of shore, 3 yards east of shore, and ¼ mile north of extreme end of Point. Cement monument marking reference station is 22.82 meters N 17° 53′ of observed station.

Marks.—Observed station is nail in center of cedar stub in center of 4-inch tile pipe with top of pipe 4 inches below surface of ground. Reference station is center point of triangle on standard cement monument projecting 5 inches above surface of ground.

References.—	°	′	″	
"Red" (N 78° 26′ E)	0	00	00	1⅝ miles.
South peak of Kirby Wharf house	12	35	..	2 miles.
"Hambrooks Bar Beacon"	44	16	50	2 miles.
Flagstaff on boathouse	57	19	..	1⅝ miles.
"Dicks Water Tank"	62	22	10	1¾ miles.
"Cambridge Standpipe"	69	41	10	3¼ miles.
Spindle on barn cupola	137	22	..	1¾ miles.
"Large Water Tank"	209	51	40	3⅜ miles.
"Black Beacon"	251	22	20	1⅛ miles.
Nail in blaze in dead locust tree (15 inches diameter)	285	21	50	9.83 meters.
Nail in blaze in locust tree (3 inches diameter)	294	01	40	13.37 meters.
Nail in blaze in pin oak tree (11 inches diameter)	297	59	10	27.28 meters.
REFERENCE STATION	299	26	40	22.82 meters.

RED.

General locality.—Northern shore of Choptank River at eastern side of Dickinsons Bay about 1⅝ miles east-northeast of Howells Point and ¾ mile northwest of Kirby Wharf. (See Chart No. 35.)

Immediate locality.—Observed station is on cultivated land on first high bluff upstream from Howells Point, about 12 feet above high water, 8 yards northeast of edge of bank, 10 yards north of edge of bank, 10 yards east of edge of bank. Cement monument marking reference station is 23.65 meters N 89° 58′ E of observed station and almost on line with east chimney of house.

Marks.—Observed station is nail in stub in center of 2-inch tile pipe with top of pipe 6 inches below surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 5 inches above surface of ground.

References.—	°	′	″	
"Hambrooks Bar Beacon" (S 3° 39′ E)	0	00	00	1⅜ miles.
"Cambridge Standpipe"	0	30	10	3 miles.
"Dicks Water Tank"	19	34	50	1¾ miles.
Center of silo tower	51	38	..	3 miles.
"Large Water Tank"	102	32	50	4¾ miles.
Near peak of barn with two cupolas	148	28	..	1 mile.
REFERENCE STATION	229	16	20	23.63 meters.
East chimney of house	229	38	..	¼ mile.

References—Continued.

	°	′	″		
Near peak of large barn	282	07	..	.....	¾ mile.
Right peak of Kirby Wharf house	308	26	..	.....	⅝ mile.
Near peak of hospital	348	39	..	.....	3¼ miles.
"East Cambridge Tall Stack"	351	07	40	.....	3 miles.

DOUBLE.

General locality.—Northern shore of Choptank River nearly opposite Cambridge, about 1 mile northwest of entrance to Bolingbroke Creek and 1½ miles east of Hambrooks Bar Beacon. (See Chart No. 35.)

Immediate locality.—Observed station is on point of marsh separated from field by a row of locust trees about 12 yards northeast of shore, 20 yards north of shore, 14 yards east of shore, and 30 yards south of a large wild cherry tree.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"East Cambridge Tall Stack" (S 32° 33′ W)	0	00	00	.....	1¾ miles.
"Dicks Water Tank"	51	44	20	.....	2 miles.
"Hambrooks Bar Beacon"	60	01	00	.....	1¼ miles.
"Large Water Tank"	76	25	40	.....	6⅝ miles.
Chimney of house	107	34	..	.....	2⅜ miles.
Nail in blaze in wild cherry tree (24 inches diameter)	142	08	30	.....	26.69 meters.
Nail in blaze in locust tree (5 inches diameter)	177	10	40	.....	24.92 meters.
Chimney outside of near end of house	177	29	..	.....	¼ mile.
Nail in blaze in wild cherry tree (4 inches diameter)	207	20	40	.....	34.66 meters.
Spindle on barn cupola	248	23	..	.....	¼ mile.
Chimney of house	320	47	..	.....	2¼ miles.
Spindle on cupola	347	55	..	.....	2 miles.
Near peak of hospital	354	52	..	.....	1¾ miles.

BOLING.

General locality.—Northern shore of Choptank River on an island in entrance to Bolingbroke Creek, about ¾ mile northwest of Chancellors Point and 2 miles east-northeast of Cambridge. (See Chart No. 35.)

Immediate locality.—Observed station is in rushes on a sandy marsh about 3 feet above high water, 6 yards northeast of shore, 7 yards north of shore, 8 yards east of shore, and 160 yards northwest by north of entrance to Bolingbroke Creek.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"East Cambridge Tall Stack" (S 60° 19′ W)	0	00	00	.....	1⅞ miles.
Chimney outside of left end of mansard roof house	33	11	..	.....	2⅜ miles.
Flagpole on boat house	37	05	..	.....	2¾ miles.
"Hambrooks Bar Beacon"	44	30	00	.....	2⅜ miles.
Nail in blaze in cedar tree (8 inches diameter)	134	40	30	.....	26.53 meters.
Nail in blaze in old cedar stump (13 inches diameter)	191	39	00	.....	5.29 meters.
Near peak of barn cupola	249	14	..	.....	1¾ miles.

References—Continued.	°	′	″		
Near peak of barn	270	14	..	.....	1¼ miles.
Chimney of house	294	34	..	.....	1½ miles.
Nail in blaze in cedar tree (11 inches diameter)	300	25	40	.....	4.56 meters.
Chimney of house	313	10	..	.....	1⅝ miles.

REAR.

General locality.—Northern shore of Choptank River about ⅛ mile northwest of Chancellors Point, and ¼ mile southeast of entrance to Bolingbroke Creek. (See Chart No. 35.)

Immediate locality.—Observed station is in cultivated field on bluff about 12 feet above high water, 65 yards north of edge of bank, 110 yards northeast of edge of bank and trees, 160 yards east of edge of bank, and 95 yards northwest of bottom of gully.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Barber" (N 35° 22′ E)	0	00	00	.....	1 mile.
Near corner of square cupola	27	51	..	.....	¼ mile.
Chimney of house	78	16	..	.....	1⅓ miles.
Near peak of barn cupola	105	00	..	.....	1¼ miles.
Near peak of large barn	136	08	..	.....	1⅜ miles.
Left peak of large barn	177	19	..	.....	1¾ miles.
Barn cupola	214	22	..	.....	2 miles.
"Cambridge Standpipe"	221	13	50	.....	2¾ miles.
"Hambrooks Bar Beacon"	255	40	50	.....	3 miles.
"Large Water Tank"	257	19	00	.....	8¼ miles.
Chimney of house	280	15	..	.....	1¼ miles.
Chimney outside near end of house	288	83	..	.....	1¾ miles.

CHANCELLOR.

General locality.—Northern shore of Choptank River on Chancellors Point about ¾ mile north of entrance of Hurst Creek, and ¾ mile southeast of entrance to Bolingbroke Creek. (See Chart No. 35.)

Immediate locality.—Observed station is on sand and grass point about 1 foot above high water, 35 yards west of shore, 35 yards northeast of shore, 60 yards north by west of extreme end of point, 13 yards south of line of cedar stumps, 27 yards southeast of large lone pine tree, and almost on range of Cambridge Standpipe and left peak of hospital. Cement monument marking reference station is 4.70 meters N 31° 31′ W of observed station and almost on line to large lone pine tree.

Marks.—Observed station is nail in cedar stub in center of 4-inch tile pipe with top flush with surface of ground. Reference station is center point of triangle on standard cement monument projecting 6 inches above surface of ground.

References.—	°	′	″		
"Cambridge Standpipe" (S 78° 00′ W)	0	00	00	.....	2⅞ miles.
REFERENCE STATION	70	29	10	.....	4.70 meters.
Nail in blaze in lone pine tree (16 inches diameter)	71	00	00	.....	24.74 meters.
Southeast corner of square cupola	115	45	..	.....	350 yards.
Nail in blaze in cedar stump (16 inches diameter)	122	32	50	.....	12.40 meters.
Chimney of house	216	38	..	.....	1¼ miles.
Near peak of house	245	53	..	.....	1⅛ miles.
Chimney on left end of house	282	44	..	.....	1¼ miles.
Chimney of house	328	52	..	.....	1⅝ miles.
Nail in blaze in small pine tree	350	04	40	.....	23.26 meters.
Left peak of hospital	359	06	..	.....	2¼ miles.

BARBER.

General locality.—Northwestern shore of upper Choptank River about 1 mile north-northeast of Chancellors Point and about ⅞ mile west-southwest of Goose Point. (See Chart No. 35.)

Immediate locality.—Observed station is on marsh about 2 feet above high water, 12 yards north-northwest of county road and shore, 45 yards west-southwest of a cabin on the county road, 25 yards west of two cedar trees just across road, and 65 yards south of a wire fence.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe with top 2 inches below base of monument.

References.—	°	′	″	
"Duck" (N 75° 49′ E)	0	00	00	⅞ mile.
Nail in blaze in cedar tree (10 inches diameter)	5	04	50	19.17 meters.
Smokepipe on wharf house	35	48	..	1½ miles.
Near peak of house	57	06	..	1½ miles.
Northwest peak of house	92	22	..	1¾ miles.
Chimney on left end of house	116	41	..	2¾ miles.
Near peak of house with square cupola	133	33	..	⅞ mile.
Large lone tree	208	40	..	350 yards.
Nail in blaze in cedar tree (5 inches diameter)	309	58	40	36.42 meters.
Nail in blaze in persimmon tree (5 inches diameter)	323	12	30	36.01 meters.
Near corner of barn	347	15	..	21.96 meters.
Nail in blaze in cedar tree (10 inches diameter)	359	16	50	20.12 meters.

DUCK. (CHOPTANK RIVER.)

General locality.—Northern shore of Choptank River on Goose Point about ¾ mile north of Oyster Shell Point and 1¾ miles northeast of Chancellors Point. (See Chart No. 35.)

Immediate locality.—Observed station is on edge of sand beach on lower part of point on level with high water, 15 to 20 yards southeast of a group of cedar and persimmon trees. Cement monument marking reference station is 12.61 meters N 28° 19′ W of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 5 inches above surface of ground.

References.—	°	′	″	
"Jam" (N 35° 54′ E)	0	00	00	1⅜ miles.
Left peak of large barn	46	01	..	1¾ miles.
Center of roof of house	82	31	..	1 ⅜ miles.
Smokepipe on wharf house	115	52	..	⅞ mile.
Left peak of barn cupola	160	21	..	2 miles.
Near corner of square chimney of house	174	03	..	2¾ miles.
Chimney of house	192	50	..	4 miles.
Near corner of square cupola on house	197	16	..	1⅝ miles.
Nail in blaze in persimmon tree (2 inches diameter)	238	59	40	21.22 meters.
REFERENCE STATION	295	47	30	12.61 meters.
Nail in blaze in persimmon tree (3 inches diameter)	297	48	50	15.20 meters.
Nail in blaze in cedar tree (3 inches diameter)	332	27	20	14.28 meters.

JAM.

General locality.—Western shore of Choptank River on Jamaica Point opposite entrance to Warwick River. (See Chart No. 35.)

Immediate locality.—Observed station is on marsh point about 3 feet above high water, 25 yards west-northwest of end of wharf, 7 yards north of county road, 11 yards northeast of county road, 13 yards south of shore, 8 yards west-southwest of shore, and 30 yards north by east of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Spindle" (N 14° 53′ W)	0	00	00	⅜ mile.
Chimney outside near end of house	16	33	..	2 miles.
Chimney of large house	19	46	..	2 miles.
"Wick"	76	04	00	¾ mile.
Chimney of house	82	48	..	1⅛ miles.
Left chimney of large brick house	90	07	..	1½ miles.
Left corner of wharf house	95	57	20	49.81 meters.
Right corner of wharf house	108	14	00	46. 85 meters.
Nail in first plank on level part of wharf	110	03	50	24. 94 meters.
Near peak of large barn	144	56	..	1½ miles.
Chimney of house	171	30	..	2 miles.
Near peak of house	202	51	..	2¼ miles.
Near peak of house near wharf	211	21	..	2 miles.
Right peak of barn cupola	218	30	..	2½ miles.
Near corner of fence	269	38	..	¼ mile.

SPINDLE.

General locality.—Western shore of upper Choptank River about ⅜ mile north of Jamaica Point Wharf. (See Chart No. 35.)

NOTE.—This triangulation landmark was destroyed before this publication was prepared, and therefore it is not described, although its name and location are shown on Chart No. 35.

BANK.

General locality.—Western shore of upper Choptank River about 1 mile north-northwest of Jamaica Point, and 1¼ miles southwest of entrance to Cabin Creek. (See Chart No. 35.)

Immediate locality.—Observed station is in a cultivated field on a tree fringed bluff about 20 feet above high water, 10 yards northwest of edge of bluff, 10 yards west of edge of bluff, and 12 yards north of edge of bluff.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Raccoon" (N 19° 26′ E)	0	00	00	⅝ mile.
Left chimney of modern house	5	55	..	1¼ miles.
Nail in blaze in branch of double oak tree (12 and 18 inches diameter)	34	56	40	7.03 meters.
Chimney of house in woods	54	30	..	1½ miles.
Chimney of shanty in woods	86	07	..	1⅛ miles.
Chimney of house	103	23	..	1¾ miles.
Nail in blaze in oak tree (8 inches diameter)	124	13	10	8.55 meters.
Nail in blaze in cedar tree (7 inches diameter)	161	00	10	21.11 meters.
Front peak of house	168	29	..	⅛ mile.

RACCOON.

General locality.—Western shore of upper Choptank River about ⅜ mile south of entrance to a small creek, 1½ miles north of Jamaica Point, and 1 mile west of entrance to Cabin Creek. (See Chart No. 35.)

Immediate locality.—Observed station is between 2 clumps of trees on sandy marsh about 2 feet above high water, 8 yards northwest of shore, 12 yards west of shore, 16 yards north of shore, and 200 yards southeast of woods beyond marsh.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Blind" (N 52° 15′ E)	0	00	00	¾ mile.
Chimney outside near end of house	34	22	..	1¾ miles.
Near peak of modern house	41	07	..	1⅛ miles.
Chimney of house	77	59	..	1¾ miles.
Near peak of house	105	09	..	2 miles.
Chimney of house	113	14	..	3⅛ miles.
Near peak of Jamaica Point Wharf house	120	42	..	1½ miles.
Left corner of house	144	31	..	1 mile.
Nail in blaze in oak tree (10 inches diameter)	155	21	50	12.66 meters.
Nail in blaze in large pine tree (12 inches diameter)	204	45	40	37.12 meters.
Nail in blaze in oak tree (10 inches diameter)	329	46	20	26.50 meters.
Chimney outside near end of house	350	04	..	⅝ mile.

BLIND.

General locality.—Northwestern shore of Choptank River about ¼ mile west-northwest of entrance to Cabin Creek, and 2 miles north of Jamaica Point. (See Chart No. 35.)

Immediate locality.—Observed station is on marsh point between river and line of locust tree about 1 foot above high water, 11 yards north of shore, 15 yards west of shore, 16 yards northeast of shore at duck blind, and 25 yards east by north of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Up" (N 61° 44′ E)	0	00	00	¾ mile.
Chimney outside of near end of old house	47	17	..	1 mile.
Peak of side gable of modern house	57	24	..	1¼ miles.
Right peak of Jamaica Point Wharf house	131	24	..	2 miles.
Chimney on house	162	44	..	1¼ miles.
Nail in blaze in locust tree (4 inches diameter)	201	23	50	10.28 meters.
Nail in blaze in locust tree (4 inches diameter)	226	50	20	7.53 meters.
Nail in blaze in locust tree (6 inches diameter)	270	06	10	5.72 meters.
Nail in blaze in locust tree (10 inches diameter)	322	04	50	14.25 meetrs.

UP.

General locality.—Northwestern shore of upper Choptank River about ¾ mile north of entrance to Cabin Creek and 2½ miles north-northeast of Jamaica Point. (See Chart No. 35.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 55 yards northwest of extreme end of point, 25 yards west of shore, and 20 yards north of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 8 inches above surface of marsh. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Myrtle" (S 60° 25′ E)	0	00	00	⅜ mile.
Peak of side gable of modern house	34	14	..	1 mile.
Chimney of old house	36	10	..	⅝ mile.
Tangent of point	77	45	..	1 mile.
House	111	45	..	1⅞ miles.
Tangent of point	122	02	..	⅝ mile.
House	273	00	..	1½ miles.
Tangent of point	305	15	..	175 yards.

MYRTLE.

General locality.—Eastern shore of upper Choptank River about ½ mile north of entrance to Cabin Creek. (See Chart No. 35.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 17 yards east of shore, 20 yards south of extreme end of point, 15 yards southwest of small gut, and 250 yards west of woods.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Hut" (S 7° 47′ W)	0	00	00	⅜ mile.
Left peak of old barn	6	41	..	⅞ mile.
Tangent of point	32	14	..	⅞ mile.
Chimney of house	53	01	..	2 miles.
Chimney outside east end of house	78	42	..	1¾ miles.
Near peak of shanty	157	18	..	¾ mile.
Stack of cannery at Choptank	180	51	..	2¾ miles.
Left peak of house	194	19	..	2¼ miles.
Tangent of point	203	56	..	¼ mile.
Right peak of roof showing over woods	314	37	..	¾ mile.
Large lone pine tree	333	11	..	300 yards.

HUT.

General locality.—Eastern shore of upper Choptank River on north side of entrance to Cabin Creek. (See Chart No. 35.)

Immediate locality.—Observed station is on marsh point about 1 foot above high water, 15 yards east of shore, 50 yards northwest of shore, 20 yards northeast of extreme end of point, 90 yards southwest of a hut, and 80 yards south-southwest of trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"House" (S 46° 38′ W)	0	00	00	¾ mile.
Chimney of house	25	27	..	1¾ miles.
Chimney outside of house	60	33	..	1¾ miles.
Cupola on barn	132	48	..	2¼ miles.
Right corner of hut	173	53	20	90 yards.

References—Continued.	°	′	″		
Chimney outside near end of old house	242	13	..	.....	¼ mile.
Peak of near gable of modern house	281	42	..	.....	½ mile.
Right peak of old barn	337	43	..	.....	⅜ mile.

HOUSE.

General locality.—Eastern shore of Choptank River about ¼ mile south of entrance to Cabin Creek, 1 mile north of entrance to Warwick River, and on south side of a small cove. (See Chart No. 35.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, 14 yards south of shore, 26 yards southeast of shore, 35 yards southwest by west of shore and mouth of small creek in marsh and 175 yards north of woods.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Saw" (S 6° 22′ W)	0	00	00	.....	⅜ mile.
Two pine trees	5	49	..	.....	
Left peak of shanty	126	49	..	.....	1⅛ mile.
Chimney outside near end of house	131	06	..	.....	1⅛ miles.
Near peak of house	137	29	..	.....	1⅛ miles.
Tangent of point	172	07	..	.....	¼ mile.
Stack of cannery at Choptank	189	09	..	.....	4 miles.
Near peak of house	193	59	..	.....	4½ miles.
Near peak of shack	219	48	..	.....	⅞ mile.
Cut in woods	348	16	..	.....	½ mile.

SAW.

General locality.—Eastern shore of Choptank River about ½ mile northeast of entrance to Warwick River, and 1 mile northeast by east of Jamaica Point. (See Chart No. 35.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, 22 yards east of shore, 26 yards southeast of shore, 37 yards northeast of shore, 200 yards west-northwest of dense woods.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Wick" (S 19° 01′ W)	0	00	00	.....	½ mile.
Right peak of Jamaica Point Wharf house	24	57	..	.....	1 mile.
Left corner of very wide chimney on brick house	32	14	..	.....	1¼ miles.
Right corner of railing on roof of house	70	36	..	.....	1⅛ miles.
Chimney of house	86	44	..	.....	1¼ miles.
Near peak of house	135	04	..	.....	1¼ miles.
Chimney outside left end of house	152	42	..	.....	2 miles.
Cupola or steeple	181	04	00	.....	5 miles.
Near corner of brick house	311	51	..	.....	½ mile.

WICK.

General locality.—Eastern shore of upper Choptank River on northern side of entrance to Warwick River about ¾ mile northeast of Jamaica Point. (See Chart No. 35.)

Immediate locality.—Observed station is on sandy ridge between beach and marsh about 2 feet above high water, 8 yards northeast of shore, 10 yards north of shore, 9 yards east of shore, 100 yards southeast by east of extreme end of point, and 35 yards northwest of two pine trees. Cement monument marking reference station is 8.26 meters N 25° 00′ E of observed station.

Marks.—Observed station is nail in cedar stub with top flush with the surface of the ground. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″		
"War" (S 2° 08′ E)	0	00	00	.....	5/8 mile.
Near peak of house in trees	2	21	..	.....	5/8 mile.
Smoke pipe on wharf house	27	13	..	.....	2 3/8 miles.
Tangent of Goose Point	45	55	..	.....	1 7/8 miles.
Right peak of Jamaica Point Wharf house	62	29	..	.....	5/8 mile.
Right corner of very wide chimney on brick house	68	42	..	.....	7/8 mile.
Left corner of cupola on roof	115	10	..	.....	1 1/8 miles.
Near peak of house	167	00	..	.....	2 3/8 miles.
REFERENCE STATION	207	07	20	.....	8.26 meters.
Nail in blaze in pine tree (12 inches diameter)	296	59	10	.....	30.06 meters.
Right pine tree	325	53	20	.....	400 yards.

WAR.

General locality.—Eastern shore of upper Choptank River on southern side of entrance to Warwick River about 3/4 mile east-southeast of Jamaica Point. (See Chart No. 35.)

Immediate locality.—Observed station is on northern side of point of marsh about 1 foot above high water, 45 yards south of shore, 35 yards southeast of shore, 45 yards east of shore, and 35 to 45 yards southwest to west of woods. Cement monument marking reference station is 4.95 meters S 12° 18′ E of observed station.

Marks.—Observed station is nail in center of cedar stub with top flush with surface of ground. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″		
"Gander" (S 11° 26′ W)	0	00	00	.....	3/4 mile.
Chimney of house	17	12	..	.....	2 miles.
Smoke pipe on wharf house	23	00	..	.....	1 3/4 miles.
Left chimney of small house	26	05	..	.....	2 miles.
Square cupola on large house	45	53	..	.....	3 1/4 miles.
Left peak of house	66	11	..	.....	1 1/8 miles.
Right corner of very wide chimney on brick house	96	11	..	.....	1 mile.
Left peak of Jamaica Point Wharf house	105	01	..	.....	5/8 mile.
Chimney of house	132	50	..	.....	1 3/4 miles.
Near peak of house	157	00	..	.....	2 3/8 miles.
Nail in blaze in pin oak tree (10 inches diameter)	186	09	50	.....	42.26 meters.
Nail in blaze in pine tree (11 inches diameter)	212	30	40	.....	41.75 meters.
Nail in blaze in pine tree (12 inches diameter)	245	18	30	.....	31.45 meters.
Nail in blaze in pine tree (12 inches diameter)	267	08	30	.....	30.11 meters.
REFERENCE STATION	336	16	20	.....	4.95 meters.
Chimney of house	353	07	..	.....	1 mile.

GANDER.

General locality.—Southeastern shore of Choptank River ⅜ mile southwest of entrance to Goose Creek, about 1⅜ miles east-northeast of Oystershell Point, and about 1⅛ miles south-southeast of Jamaica Point. (See Chart No. 35.)

Immediate locality.—Observed station is in an uncultivated field on bank about 6 feet above high water, 19 yards east of edge of bank, 33 yards northeast of edge of bank, 33 yards southeast of edge of bank, and 155 yards west of two large cedar trees at a paling fence.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Chief" (S 9° 44′ W)	0	00	00	⅝ mile.
Chimney of house	28	22	..	1¼ miles.
Smoke pipe on wharf house	40	14	..	1⅛ miles.
Chimney of house	50	00	..	4½ miles.
"Cambridge Stand Pipe"	62	46	50	5¾ miles.
Chimney outside of house	113	39	..	1¼ miles.
Right chimney of house	135	48	..	1¼ miles.
Near peak of Jamaica Point Wharf house	147	14	..	1⅛ miles.
Chimney of house	148	54	..	2⅜ miles.
Chimney of house	164	24	..	3¼ miles.
Tangent of point	172	50	..	¾ mile.
Right end of roof of long barn	235	04	..	⅝ mile.
Black walnut tree	282	36	..	200 yards.
Chimney of house	344	59	..	¼ mile.

CHIEF.

General locality.—Southeast shore of Choptank River on a narrow neck of land between Choptank River and Indian Creek, about 1 mile east of Oystershell Point. (See Chart No. 35.)

Immediate locality.—Observed station is on a grass strip between Choptank River and Indian Creek about 2 feet above high water, 15 yards south of river shore, 11 yards north of creek shore, 20 yards southeast of river shore, and 25 yards southwest of river shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Shell" (S 85° 11′ W)	0	00	00	1 mile.
Smoke pipe on wharf house	0	42	..	¾ mile.
Nail in blaze in locust tree (3 inches diameter)	13	37	10	11.76 meters.
Right corner of railing on house	78	32	..	2 miles.
Near peak of house	91	47	..	3⅝ miles.
Right corner of square chimney	114	47	..	½ mile.
Near corner of barn	144	05	..	¼ mile.
Nail in blaze in cedar tree (6 inches diameter)	167	07	10	22.07 meters.
Stack of cannery	208	56	20	⅜ mile.
Peak of house between two chimneys	253	32	..	¼ mile.
Nail in blaze in cedar tree (8 inches diameter)	348	04	50	13.81 meters.
Near peak of cottage	358	38	..	1 mile.

SHELL.

General locality.—Southeastern shore of Choptank River on Oyster Shell Point about ¾ mile south of Goose Point and 1½ miles east-northeast of Chancellors Point. (See Chart No. 35.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, 100 yards north of rail fence, 55 yards southwest of shore, 75 yards south of shore, 400 yards west of a wharf, 250 yards west by north of a small house near the shore, 50 yards west by north of corner of fence. Cement monument marking reference station is 2.27 meters N 83° 07′ W of observed station.

Marks.—Observed station is nail in cedar stub flush with surface of ground. Reference station is center point of triangle on standard cement monument projecting 5 inches above the surface of the ground.

References.—

	°	′	″	
"Whitehall" (S 41° 55′ W)	0	00	00	⅝ mile.
Lone tree	29	12	..	225 yards.
"Cambridge Standpipe"	35	39	00	4½ miles.
Right corner of square cupola	39	24	..	1½ miles.
REFERENCE STATION	54	57	50	2.27 meters.
Chimney of left end of house	83	10	..	1⅛ miles.
Near peak of large house	150	53	..	1⅞ miles.
Near peak of Jamaica Point Wharf house	158	17	..	1⅞ miles.
Right peak of building	177	29	..	2⅝ miles.
Chimney on house	205	20	..	1¼ miles.
Smoke pipe on wharf house	221	13	..	¼ mile.
Near peak of shed	265	40	..	150 yards.
Near peak of house	280	06	..	300 yards.

WHITEHALL.

General locality.—Southeastern shore of Choptank River about ⅝ mile southwest of Oystershell Point, and 1⅛ miles east of Chancellor Point. (See Chart No. 35.)

Immediate locality.—Observed station is on a marsh point among water bushes about 12 yards south-southeast of shore, 13 yards south-southwest of shore, and 15 yards east-southeast of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Ferry" (S 55° 08′ W)	0	00	00	1¼ miles.
Chimney of house	10	50	..	2¾ miles.
"Cambridge Stand Pipe"	27	22	40	4 miles.
Right of square cupola	46	16	..	1⅛ miles.
Left chimney on long house	99	58	..	1¼ miles.
Chimney outside near end of house	137	20	..	1⅞ miles.
Near peak of large building	144	31	..	2⅜ miles.
Front peak of Jamaica Point Wharf house	150	00	..	2½ miles.

FERRY.

General locality.—Southern shore of Choptank near east side of entrance to Hurst Creek about 2½ miles east of Cambridge. (See Chart. No. 35.)

Immediate locality.—Observed station is on a sand beach about on level with high water, 92 yards east-northeast of Hurst Creek, 1 yard southeast of shore, and 6 to 10 yards northwest to north of several low cedar trees. Cement monument marking reference station is 16.74 meters S 50° 12′ E of observed station.

Marks.—Observed station is nail in pine stub in center of 2-inch tile pipe with top of pipe 6 inches below surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"E. Cambridge Tall Stack" (N. 81° 21′ W)..	0	00	00	..... 2½ miles.
"Hambrooks Bar Beacon".....	24	05	10	..... 3¼ miles.
Near peak of large house with cupola.....	79	37	..	..... 1 mile.
Near peak of barn cupola.....	99	22	..	..... 2 miles.
Near peak of Jamaica Point Wharf house....	116	23	..	..... 3⅝ miles.
Nail in blaze in cedar tree (11 inches diameter).....	193	07	00	..... 6.82 meters.
REFERENCE STATION.....	211	09	00	..... 16.74 meters.
Nail in blaze in cedar tree (8 inches diameter).....	242	42	50	..... 8.32 meters.
Nail in blaze in cedar tree (16 inches diameter).....	279	49	00	..... 9.76 meters.
Chimney of house.....	338	10	..	..... 1¾ miles.

SHOAL.

General locality.—Southern shore of Choptank River near entrance to a small creek about 1 mile east-southeast of Cambridge 1⅝ miles west-southwest of Chancellors Point. (See Chart No. 35.)

Immediate locality.—Observed station is in woods on a point of land about 10 feet above high water, 50 yards east of edge of bank, 6 yards southwest of wire fence at edge of high land, 7 yards south of wire fence, 11 yards west of wire fence, 13 yards west-southwest of large double oak tree, and 90 yards east of a marsh point at a creek. Cement monument marking reference station is 6.08 meters S 23° 44′ W of observed station.

Marks.—Observed station is center of tile pipe with top 6 inches below surface of ground. Reference station is center point of triangle on standard cement monument projecting 5 inches above surface of ground.

References.—	°	′	″	
"Cambridge" (N 46° 31′ W).....	0	00	00	..... 1¾ miles.
Large chimney of house.....	25	55	..	..... 3⅝ miles.
Spindle of barn cupola.....	61	31	..	..... 1¾ miles.
Left chimney of house.....	84	09	..	..... 2 miles.
Near peak of barn with cupola.....	106	11	..	..... 1¾ miles.
Nail in blaze in large double oak tree.....	120	03	20	..... 11.31 meters.
Nail in blaze in black walnut tree (8 inches diameter).....	205	53	40	..... 10.96 meters.
Nail in blaze in cedar tree (6 inches diameter).....	224	26	30	..... 8.05 meters.
REFERENCE STATION.....	250	15	40	..... 6.08 meters.
Nail in blaze in black walnut tree (17 inches diameter).....	304	19	20	..... 3.19 meters.
Flagstaff on boathouse.....	358	43	..	..... 2½ miles.

EAST CAMBRIDGE TALL STACK.

General locality.—Southern shore of Choptank River in the town of Cambridge on the east side of Cambridge Creek. (See Chart No. 35.)

Immediate locality.—Observed station is tall square brick smokestack at plant of Cambridge Manufacturing Company.

Marks.—Observed station is center of stack.

References.—None necessary.

EAST CAMBRIDGE SPIRE.

General locality.—Southern shore of Choptank River in town of Cambridge on the east side of Cambridge Creek and the south side of Maryland Avenue. (See Chart No. 35.)

NOTE.—This triangulation landmark was torn down before this publication was prepared and therefore it is not described, although its name and location are shown on Chart No. 35.

CAMBRIDGE STANDPIPE.

General locality.—Southwestern side of Choptank River in the town of Cambridge. (See Chart No. 35.)

Immediate locality.—Observed station is on standpipe on the north side of High Street near Pine Street.

Marks.—Observed station is center of cylindrical water standpipe with ornamental railing on top.

References.—None necessary.

CAMBRIDGE.

General locality.—Southern shore of Choptank River on a point about ¾ mile southeast of Hambrooks Bar Beacon and ½ mile northwest of Cambridge steamer wharf. (See Chart No. 35.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 30 yards west of shore, 35 yards south of shore at cut, 40 yards southwest of shore, and 3 yards southwest of barbwire fence running northwest and southeast.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Command" (N 50° 20′ W)	0	00	00	⅞ mile.
"Hambrooks Bar Beacon"	36	12	00	¾ mile.
Southwest peak of Kirby Wharf house	58	27	..	1¾ miles.
Chimney outside of south end of house	107	00	..	1⅞ miles.
Near one of four chimneys on large square house	133	26	..	2¼ miles.
Right chimney of large house on Chancellors Point	146	27	..	2¾ miles.
Weather vane on hotel	235	36	..	½ mile.
Chimney of house	328	03	..	¾ mile.
Flagpole	354	09	..	¾ mile.
Flagpole on boathouse	359	24	..	¾ mile.

HAMBROOKS BAR BEACON.

General locality.—Southern side of Choptank River about ¼ mile offshore from point of land known as Hambrooks Bar, about 2 miles southeast of Howells Point and 1½ miles northwest of Cambridge. (See Chart No. 35.)

Immediate locality.—Observed station is on a cylindrical foundation known as Hambrooks Bar Beacon.

Marks.—Observed station is center point of lantern on Hambrooks Bar Beacon.

References.—None necessary.

DICKS WATER TANK.

General locality.—Southern shore of Choptank River near Hambrooks Bar about ⅝ mile southwest of Hambrooks Bar Beacon and ½ mile west of extreme end of Hambrooks Bar. (See Chart No. 35.)

Immediate locality.—Observed station is on water tank.

Marks.—Observed station is spindle on top of water tank.

References.—None necessary.

COMMAND.

General locality.—Southern shore of Choptank River about ½ mile west-southwest of Hambrooks Bar Beacon and about 1¼ miles northwest of Cambridge Wharf. (See Chart No. 35.)

Immediate locality.—Observed station is on a marsh point inside of a fence line, about 2 feet above high water, 18 yards southeast of shore, 16 yards south of shore, 25 yards southwest of shore, and 150 yards northwest of a boathouse.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Choptank River Light" (N 49° 40′ W)	0	00	00	.....	6¾ miles.
Nail in blaze in fence post	5	33	30	.....	10.85 meters.
Near peak of large building	16	45	..	.....	2¼ miles.
Nail in blaze in fence post	65	08	20	.....	11.01 meters.
Left chimney of house with three dormer windows	68	28	..	.....	1⅞ miles.
Near peak of Kirby Wharf house	86	40	..	.....	1½ miles.
"Hambrooks Bar Beacon"	121	17	50	.....	½ mile.
Near peak of large house	153	10	..	.....	3 miles.
Flagstaff on boathouse	183	20	..	.....	150 yards.
"Dicks Water Tank"	266	29	30	.....	⅛ mile.
Nail in blaze in fence post	328	25	40	.....	17.23 meters.
Left chimney of old house	331	53	..	.....	2¾ miles.
"Large Water Tank"	347	03	10	.....	5 miles.

HOWARD.

General locality.—Southern shore of Choptank River, 2 miles southeast of Horn Point and about ¼ mile northwest of entrance to Jenkins Creek. (See Chart No. 35.)

Immediate locality.—Observed station is on cultivated land on bluff about 12 feet above high water, 25 yards southwest of edge of bluff, 30 yards south of edge of bluff, 35 yards west of edge of bluff, 45 yards west-northwest of corner of fence dividing field from marsh, and 65 yards northeast of the south one of two small poplar trees in field.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Choptank River Light" (N 36° 14′ W)	0	00	00	.....	6 miles.
Near peak of barn	30	20	..	.....	3½ miles.
"Black Beacon"	32	16	50	.....	2⅝ miles.
Red Beacon	34	11	30	.....	2⅞ miles.
Near peak of low house in trees	79	52	..	.....	3¼ miles.
Near peak of Kirby Wharf house	90	53	..	.....	3 miles.
"Dicks Water Tank"	109	57	40	.....	1½ miles.
Left chimney of house	115	00	..	.....	1 mile.
Nail in blaze in locust tree (8 inches diameter)	125	51	50	.....	37.49 meters.
Nail in blaze in locust tree	144	34	50	.....	45.66 meters.
Nail in blaze in locust tree	188	22	40	.....	63.83 meters.
Near peak of barn	245	03	..	.....	¼ mile.
Right peak of house	317	02	..	.....	¼ mile.
Right peak of old house	351	02	..	.....	1½ miles.

TOOT.

General locality.—Southern shore of Choptank River on Horn Point about 1⅝ miles west of Howells Point, and at eastern side of entrance to Lecomptes Bay. (See Chart No. 35.)

Immediate locality.—Observed station is in woods about 7 feet above high water, 15 yards south of shore, 13 yards southwest of shore, and 20 yards west of shore, and near but not on highest point of ground. Cement monument marking reference station is 12.38 meters S 33° 34′ W of observed station.

Marks.—Observed station is nail in center of stub in 2-inch tile pipe projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of the ground.

References.—

	°	′	″	
"Choptank River Light" (N 34° 15′ W)	0	00	00	4⅛ miles.
East peak of large barn	57	02	..	2¾ miles.
Large chimney of house	68	24	..	2½ miles.
Red Beacon	71	28	00	2 miles.
"Black Beacon"	73	17	30	1⅝ miles.
Near peak of house	88	38	..	2 miles.
Nail in blaze in elm tree	147	42	40	5.48 meters.
Nail in blaze in oak tree (24 inches diameter)	200	47	10	4.70 meters.
Nail in blaze in oak tree (20 inches diameter)	246	58	10	16.89 meters.
REFERENCE STATION	247	49	00	12.38 meters.
Chimney of house	293	21	..	1½ miles.
Chimney outside of house	331	19	..	1⅝ miles.
"Large Water Tank"	344	41	10	2⅜ miles.
Near corner of boathouse	351	52	..	2⅛ miles.

LECOMPTE.

General locality.—Southern shore of Choptank River on southwestern side of Lecomptes Bay about 1½ miles west-southwest of Horn Point, ⅝ mile northwest of Travers Wharf, and ¼ mile southwest of mouth of Lecomptes Creek. (See Chart No. 35.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, 18 yards west of point of shore, 14 yards south-southeast of shore, 5 yards east-southeast of turn in shore at beach, 7 yards northeast of a pool, 10 yards northwest of cut in shore, and 115 yards southeast of near one of two large cedar trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Grubin" (N 56° 00′ E)	0	00	00	3⅛ miles.
"Black Beacon"	0	12	10	2⅞ miles.
Barn cupola	9	10	..	.....
North peak of wharf house	69	02	..	¼ mile.
North peak of house	106	43	..	⅜ mile.
Left one of two large cedar trees	248	12	..	117 yards.
Spindle on barn cupola	280	48	..	½ mile.
Chimney outside of house	303	44	..	⅝ mile.
Red Beacon	358	07	20	3⅛ miles.

LARGE WATER TANK.

General locality.—Southwestern shore of Choptank River at Castle Haven, about 2⅛ miles south of Choptank River Light. (See Chart No. 35.)

Immediate locality.—Observed station is on water tank on high steel tower near barns at Castle Haven.

Marks.—Observed station is center point of windmill on water tank.

References.—None necessary.

CASTLE.

General locality.—Southern shore of Choptank River on Castlehaven Point on north side of Castlehaven Creek about 2 miles south-southwest of Choptank River Light. (See Chart No. 35.)

Immediate locality.—Observed station is on a narrow neck of land, about 25 yards south-southwest of shore of Choptank River, 20 yards north of shore of cove, 22 yards west of bathhouse, and 100 yards east-northeast of three poplar trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Choptank River Light" (N 25° 41′ W)	0	00	00	.....	2 miles.
Right corner of house near Bachelor Point	19	27	..	.....	3 miles.
Left corner of bathhouse	95	31	20	.....	21.42 meters.
Near corner of bathhouse	109	32	20	.....	19.83 meters.
Near peak of house	122	56	..	.....	3 miles.
Right peak of boathouse at Castlehaven Wharf	215	04	..	.....	⅛ mile.
Right corner of chimney of brick house	254	18	..	.....	⅛ mile.

JERE.

General locality.—Eastern side of Chesapeake Bay on Sharps Island, about 1¼ miles south-southeast of Sharps Island Light. (See Chart No. 36.)

Immediate locality.—Observed station is on hard ground about 7 feet above high water, 95 yards south-southeast of old hotel building, 95 yards west-southwest of shore, 150 yards southwest of a point and in such a position that Sharps Island Light shows to the right of the old hotel building.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Sharps Island Light" (N 24° 06′ W)	0	00	00	.....	1½ miles.
Church cupola	46	35	50	.....	5¼ miles.
Chimney on left end of roof of large house	47	44	..	.....	5 miles.
Chimney of large house	104	25	..	.....	4¼ miles.
Large chimney of large house	115	46	..	.....	4¾ miles.
Chimney on right end of large house	142	21	..	.....	5⅝ miles.
Near corner of house	346	59	..	.....	95 yards.

SHARPS ISLAND LIGHT.

General locality.—Eastern side of Chesapeake Bay off entrance to Choptank River, about 1 mile north-northwest of Sharps Island and 2⅝ miles southwest of Blackwalnut Point. (See Chart No. 36.)

Immediate locality.—Observed station is on structure with a cylindrical foundation known as Sharps Island Light.

Marks.—Observed station is center point of lantern on Sharps Island Light.

References.—

	°	′	″		
"Black" (N 43° 36′ E)	0	00	00	.....	2¾ miles.

BLACK.

General locality.—Eastern shore of Chesapeake Bay on Blackwalnut Point at north side of entrance to Choptank River, about 2¾ miles northeast of Sharps Island Light. (See Charts No. 36.)

Immediate locality.—Observed station is in cultivated land about 8 feet above high water, 35 yards east-northeast of edge of bank, 45 yards west of edge of bank, 65 yards northwest of edge of bank, and 130 yards south of a lone apple tree.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Sharps Island Light" (S 43° 37′ W)	0	00	00	.....	2¾ miles.
Near peak of old house	123	10	..	.....	½ mile.
Lone apple tree	133	16	..	.....	131 yards.
Chimney of house among trees	145	38	..	.....	1¾ miles.
Right chimney of house near water	163	31	..	.....	1 mile.
Right chimney of large house	211	27	..	.....	7 miles.
"Choptank River Light"	232	11	30	.....	8½ miles.
Near peak of barn	253	22	..	.....	6 miles.
Left chimney of house	270	12	..	.....	3⅞ miles.
Chimney outside left end of house	283	35	..	.....	7 miles.
Near peak of old hotel building on Sharps Island	337	47	..	.....	3½ miles.

BAR.

General locality.—Western shore of entrance to Harris Creek on Upper Bar Neck Point, about 1¾ miles north-northeast of Blackwalnut Point and 1½ miles south-southeast of Tilghman Island Wharf. (See Progress map.)

Immediate locality.—Observed station is in cultivated field about 6 feet above high water, 3 yards west of edge of bank and 60 yards north of line of trees at edge of marsh. Cement monument marking reference station is 45.81 meters S 83° 00′ W of observed station nearly on line to large lone persimmon tree 15 inches diameter.

Marks.—Observed station is center of 4-inch tile pipe with top about 6 inches below surface of ground. Reference station is center point of triangle on standard cement monument projecting 6 inches above surface of ground.

References.—	°	′	″		
"Large Water Tank" (S 61° 46′ E)	0	00	00	.....	9¼ miles.
Nail in blaze in oak stump	63	18	00	.....	51.17 meters.
Nail in blaze in wild cherry tree	78	58	40	.....	46.66 meters.
Nail in blaze in cedar tree	88	35	30	.....	47.69 meters.
Nail in blaze in lone persimmon tree	144	33	10	.....	49.48 meters.
REFERENCE STATION	144	46	00	.....	45.81 meters.
Right chimney of first house to right of woods	205	39	..	.....	⅜ mile.
Schoolhouse cupola	213	11	40	.....	1⅜ miles.
Stack of cannery	216	19	..	.....	1½ miles.
Stack of cannery	227	10	..	.....	1¾ miles.
Right chimney of house showing over woods	239	07	..	.....	2½ miles.
Neavitt schoolhouse cupola	269	25	..	.....	3¾ miles.
Chimney of house	276	58	..	.....	2½ miles.

CHANGE (1910).

General locality.—Eastern shore of Harris Creek on Change Point, about 1½ miles east of Knapps Narrows. (See Progress map.)

Immediate locality.—Observed station is in cultivated field about 8 feet above high water, 45 yards north-northeast of extreme end of point, 55 yards northwest of edge of bank, 35 yards east of edge of bank, 70 yards southeast by south of corner of wire fence, and 70 yards south-southwest of wire fence.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Nelson 3" (S 53° 21′ E)	0	00	00	1⅞ miles.
"Windmill"	5	53	50	9¼ miles.
Near peak of house	25	43	..	7 miles.
Chimney of house	89	04	..	2½ miles.
Near peak of house	117	29	..	2½ miles.
Near peak of storehouse on Tilghman Island Wharf	123	16	..	1¾ miles.
Near peak of house	131	01	..	2⅜ miles.
Near chimney of brick house	210	58	..	2⅜ miles.
Right chimney of house	278	54	..	¼ mile.
Near peak of house	307	44	..	⅛ mile.

CHEF.

General locality.—Eastern shore of Chesapeake Bay on Cook Point, at southern side of entrance to Choptank River, about 4 miles east of Sharps Island. (See Charts Nos. 36 and 37.)

Immediate locality.—Observed station is in cultivated field about 8 feet above nigh water, 30 yards inside of fringe of trees parallel with shore, 45 yards southwest of eastern end of fringe of trees, 70 yards east of western end of fringe of trees, and 190 yards northwest by north of gate in fence running east and west.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Sharps Island Light" (N 84° 01′ W)	0	00	00	4½ miles.
Nail in blaze in wild cherry tree (4 inches diameter)	18	41	10	31.43 meters.
Nail in blaze in locust tree (5 inches diameter)	46	09	20	28.53 meters.
Large chimney of house	51	57	..	4¾ miles.
Nail in blaze in locust tree (5 inches diameter)	79	02	50	29.94 meters.
Left peak of house	81	21	..	5 miles.
Near peak of barn	98	22	..	7½ miles.
Nail in blaze in locust tree (5 inches diameter)	99	50	30	43.16 meters.
Near chimney on largest building in group	127	24	..	6 miles.
Left end of house	150	48	30	7⅝ miles.
"Choptank River Light"	158	02	10	5⅞ miles.
Lone persimmon tree	165	47	..	231 yards.
"Large water tank"	177	43	10	6⅜ miles.
Right chimney outside house	194	02	..	2¼ miles.
Chimney on right one of two houses	222	37	..	¼ mile.
Right peak of barn	251	19	..	¼ mile.
Right peak of hotel on Sharps Island	341	27	..	4 miles.

COOK POINT WINDMILL.

General locality.—Eastern shore of Chesapeake Bay on Cook Point, between Tripps Bay and Cook Point Cove, about 1¼ miles southeast of end of point. (See Charts Nos. 36 and 37.)

Immediate locality.—Observed station is on windmill over smaller and west one of two water tanks west of a barn on Cook Point farm.

Marks.—Observed station is center of windmill over smaller tank.

References.—None necessary.

BRANNOCK.

General locality.—Eastern shore of Chesapeake Bay between Choptank River and Little Choptank River, on the southern shore of Brannock Bay, about 7 miles southeast of Sharps Island Light. (See Charts Nos. 36 and 37.)

Immediate locality.—Observed station is on high land about 8 feet above high water, 11 yards south of shore, 7 yards south of edge of bluff, 8 yards north of rail fence on far side of county road, 50 yards east of bend where road leaves shore and runs toward farmhouse and 150 yards northeast of a farmhouse.

Marks.—Observed station is center point of triangle on standard cement monument projecting about inches above surface of ground. Subsurface mark is 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
Sharps Island Light (N 54° 34′ W)	0	00	00	7 miles.
Near peak of house on Cook Point	38	18	..	3½ miles.
"Cook Point windmill"	45	33	30	2½ miles.
Right chimney of house in trees	83	15	..	2 miles.
Between two chimneys on large part of house	104	31	..	1 mile.
Outside chimney on near end of house	108	06	..	1 mile.
Center one of three chimneys of house	142	03	..	1 mile.
Tangent of right end of barn roof	150	49	..	1 mile.
Center one of three chimneys on house	163	16	..	¾ mile.
Right peak of house	203	34	..	2 miles.
Left chimney of 1½-story house across creek	210	47	..	2 miles.
Near peak of barn	285	11	..	¾ mile.
Tangent of Mills Point	343	43	..	¾ mile.
Tangent of left end of Sharps Island Hotel	352	12	..	5½ miles.

ROBINS.

General locality.—Eastern shore of Chesapeake Bay on Hills Point, at northeast side of entrance to Little Choptank River, about 6 miles southeast of Sharps Island Light. (See Charts Nos. 36 and 37.)

Immediate locality.—Observed station is in cultivated field about 8 feet above high water, 40 yards northeast by north of edge of bluff, 45 yards east by north of point of bluff, 65 yards south by east of edge of bluff in range with Sharps Island Light, and 140 yards north by west of wire fence at bluff.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Sharps Island Light" (N 34° 11′ W)	0	00	00	6 miles.
Nail in blaze in cedar tree (8 inches diameter)	5	43	20	37.11 meters.
Left chimney of house	76	25	..	⅛ mile.
Near peak of barn	87	14	..	⅛ mile.
Tallest chimney of house	91	22	..	¾ mile.
Near peak of barn	222	52	..	5¼ miles.
Tangent of end of woods on Taylor Island	229	14	..	5¼ miles.
Chimney of house on James Point	247	10	..	3⅛ miles.
Tangent of James Point	248	00	..	3 miles.
Nail in blaze in cedar tree (8 inches diameter)	336	32	30	28.22 meters.
Nail in blaze in cedar tree (8 inches diameter)	353	18	50	30.90 meters.
Tangent of right side of hotel on Sharps Island	356	39	..	4½ miles.

RAGGED POINT 3.

General locality.—Northern shore of Little Choptank River on Ragged Island, about 3 miles east of the northeast end of James Island. (See Charts Nos. 36 and 37.)

Immediate locality.—Observed station is on small marsh point about 1 foot above high water, 3 yards east of shore, 5 yards northwest of shore, 9 yards north of extreme end of point, and 100 yards east of a small marsh island. Cement monument marking reference station is 27.27 meters N 31° 42′ E of observed station. Tile pipe set in cement marking old reference station is 21.75 meters N 30° 42′ E of observed station.

Marks.—Observed station is nail in cedar stub with top flush with surface of ground. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Old reference station is tile pipe set in cement projecting 2 inches above surface of ground.

References.—	°	′	″	
"Hudson" (N 76° 00′ E)	0	00	00	1⅝ miles.
Near peak of barn	66	19	..	2 miles.
Near peak of barn	70	55	..	2 miles.
Near chimney of house	72	00	..	2 miles.
Right chimney of house	75	31	..	2¼ miles.
Near peak of barn	109	39	..	2½ miles.
Near peak of barn	116	30	..	2⅝ miles.
Left chimney of house on Hooper Point	117	34	..	2⅝ miles.
Near peak of barn	129	50	..	2¼ miles.
Near peak of barn on Hills Point	247	47	..	2⅞ miles
OLD REFERENCE STATION (TILE PIPE)	314	41	40	21.75 meters.
NEW REFERENCE STATION (CEMENT MONUMENT)	315	47	40	27.27 meters.

TORREY.

General locality.—Eastern shore of Slaughter Creek, about 1 mile southeast of Hooper Point, and ½ mile southwest of entrance to Parsons Creek. (See Charts Nos. 36, 37, and 38.)

Immediate locality.—Observed station is on hard marsh about 1 foot above high water, 90 yards east northeast of shore, 250 yards south of shore, 50 yards west of young pine thicket, and near several small pine trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Maryland" (S 22° 07′ W)	0	00	00	¾ mile.
Peak of barn	0	25	..	1 mile.
Cupola on barn	9	37	..	1⅜ miles.
Right chimney of house	22	48	..	1⅝ miles.
Left chimney of house	47	32	..	¾ mile.
Right end of barn	79	07	..	⅝ mile.
Left chimney of house	82	24	..	⅝ mile.
Center of old windmill	97	14	..	1 mile.
Left chimney of house on Hooper Point	109	58	..	1 mile.
Near peak of barn	174	14	..	4 miles.
Nail in blaze in pine tree (5 inches diameter)	265	24	40	9.60 meters.
Nail in blaze in pine tree (6 inches diameter)	287	08	10	11.86 meters.
Nail in blaze in pine tree (4 inches diameter)	292	06	00	17.90 meters.

MARYLAND.

General locality.—Eastern side of Slaughter Creek, about 1¼ miles northeast of Slaughter Creek Bridge, and ¼ mile southeast of shore. (See Charts Nos. 36, 37, and 38.)

Immediate locality.—Observed station is in a cultivated field about 35 yards northeast of fence between fields, 105 yards west-northwest of road from Madison to Taylor Island, 115 yards northwest of junction of fences at road, and 130 yards west-northwest of house on opposite side of road.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Noblee" (S 29° 28′ W)	0	00	00	¾ mile.
Near peak of canning house	2	03	..	1⅜ miles.
Spindle on cupola on barn	12	10	..	¾ mile.
Left side of barn	37	09	..	¼ mile.
Right chimney of house	51	14	..	¼ mile.
Near chimney of large house	99	33	..	⅝ mile.
Near peak of large barn	126	38	..	⅞ mile.
Left chimney of house	163	02	..	½ mile.
Chimney on near end of house	212	46	..	¾ mile.
Center of front door of house on opposite side of road	269	34	..	130 yards.
Near peak of barn	353	18	..	1 mile.

WHITEWASH.

General locality.—Western shore of Slaughter Creek, about 1¼ miles north of Slaughter Creek Bridge, and 1½ miles southwest of entrance to Parsons Creek. (See Charts Nos. 36, 37, and 38.)

Immediate locality.—Observed station is on marsh about on level with high water, about 25 yards west-northwest of shore, 50 yards north-northwest of shore, 60 yards southwest of shore, 50 yards east-southeast of wire fence, and 300 yards south of farm house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Moore" (N 23 °17′ E)	0	00	00	⅝ mile.
Near chimney of house	28	33	..	1⅞ miles.
Left chimney of house	42	53	..	⅝ mile.
Near peak of barn	51	57	..	¾ mile.
Near gable of house	92	49	..	⅝ mile.
Left chimney of house	115	15	..	⅜ mile.
Cupola on barn	155	17	..	¾ mile.
Center of canning house ventilators	161	17	..	1¼ miles.
Center of draw of Slaughter Creek Bridge	169	48	..	1¼ miles.
Near peak of large building	177	46	..	1⅜ miles.
Near peak of barn	330	08	..	250 yards.
Right chimney of house	335	23	..	⅝ mile.
Near peak of barn	351	15	..	⅝ mile.

MOORE.

General locality.—Western shore of Slaughter Creek, about 5/8 mile south of Hooper Point and 7/8 mile west-southwest of entrance to Parsons Creek. (See Charts Nos. 36, 37, and 38.)

Immediate locality.—Observed station is on sand and shell land near edge of marsh about 1 foot above high water, 11 yards west of shore, 25 yards north of shore, 130 yards south of shore, 140 yards east of near corner of large barn, and 200 yards west-southwest of end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Veith" (N 9° 21′ W)	0	00	00	5/8 mile.
Right chimney of house	68	23	..	1 1/2 miles.
Near peak of barn	74	39	..	1 1/2 miles.
Near peak of barn	149	02	..	3/4 mile.
Left chimney of house	168	10	..	7/8 mile.
Left chimney of house	189	25	..	3/4 mile.
Center of draw of Slaughter Creek bridge	205	46	..	1 7/8 miles.
Near corner of large barn	275	24	..	140 yards.
Left edge of house	296	55	..	1/8 mile.
Near peak of barn	333	27	..	5/8 mile.
Right chimney of house on Hooper Point	343	01	..	5/8 mile.

VEITH.

General locality.—Southern shore of Little Choptank River on Hooper Point at western side of entrance to Slaughter Creek about 2 miles south of Ragged Point. (See Charts Nos. 36, 37, and 38.)

Immediate locality.—Observed station is on a marsh about 1 foot above high water, 25 yards west of shore, 30 yards south of shore, 50 yards northwest of shore, 6 yards east of edge of larger pond in marsh, 25 yards north of edge of smaller pond in marsh, and 125 yards east of an orchard.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Ragged Point 3" (N 7° 23′ E)	0	00	00	2 miles.
Left chimney of house	23	31	..	3 1/8 miles.
Tangent of Susquehanna Point	48	15	..	2 1/4 miles.
Right chimney of house	75	11	..	1 1/2 miles.
Near peak of barn	172	27	..	1/4 mile.
Left chimney of house	173	28	..	1/2 mile.
Near chimney of house	208	22	..	1/2 mile.
Center of old windmill	221	47	..	1/2 mile.
Near chimney of house on Hooper Point	272	12	..	1/8 mile.
Near peak of barn	353	05	..	3 3/8 miles.

CAN.

General locality.—Southern shore of Little Choptank River on a point about 2 miles east of the southeastern end of James Island, and 1 mile west of entrance to Slaughter Creek. (See Charts No. 36, 37, and 38.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 9 yards southwest of shore, 17 yards southeast of end of point, 20 yards east of shore, and 180 yards north-northwest of a house among trees. Cement monument marking reference station is 9.25 meters S 6° 58′ E of observed station.

Marks.—Observed station is center of 4 inch tile pipe set in cement and projecting 2 inches above surface of ground. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″	
"Skid" (N 89° 23′ W)	0	00	00	2 miles.
Chimney on near end of old house	7	40	..	2 miles.
Chimney on end of small addition to house	38	23	..	2¼ miles.
Near peak of barn on Hills Point	83	31	..	4½ miles.
Near peak of house	106	27	..	4⅜ miles.
Left chimney of house	132	18	..	3¾ miles.
Middle chimney of house	164	57	..	3¾ miles.
Left chimney of house	210	48	..	180 yards.
REFERENCE STATION	262	25	00	9.25 meters.
Near peak of large barn	328	01	..	1¼ miles.
Left chimney of large house on north end of Taylor Island	345	56	..	1⅜ miles.
Tangent to north end of Taylor Island	356	20	..	1⅜ miles.

SKID.

General locality.—Eastern shore of Chesapeake Bay, on extreme southern end of James Island, about 8½ miles north-northeast of Cove Point Light and 4 miles southwest of Ragged Point. (See Charts Nos. 36, 37, and 38.)

Immediate locality.—Observed station is on land about 5 feet above high water, 33 yards west of shore, 22 yards northeast of shore, and 60 yards northwest of extreme end of point. Four-inch tile pipe marking old reference station is 148.83 meters N 9° 35′ W of observed station and cement monument marking new reference station is 58.70 meters N 9° 59′ W of observed station.

Marks.—Observed station is center of 4-inch tile pipe with top 6 inches below surface of ground. Subsurface mark is center of 4-inch tile pipe buried with top 2 inches below base of surface pipe. Old reference station is nail in center of 4-inch tile pipe filled with and set in cement projecting 3 inches above surface of ground. New reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″	
"Can" (S 89° 25′ E)	0	00	00	2 miles.
Near peak of barn with metal roof	24	25	..	¾ mile.
Left chimney of house	28	22	..	¾ mile.
Left chimney of house	39	31	..	1 mile.
Near peak of house	67	27	..	1¼ miles.
Right chimney of house	85	19	..	¾ mile.
Tangent of north end of Taylor Island	107	44	..	¼ mile.
Tangent of end of woods	224	23	..	⅜ mile.
Left chimney of large house	259	49	..	¼ mile.
OLD REFERENCE STATION (TILE PIPE)	259	49	10	148.83 meters.
NEW REFERENCE STATION (MONUMENT)	259	25	40	58.70 meters.
"Rede" (Right chimney of house)	274	23	40	¾ mile.
Right tangent of woods on Casons Point	333	28	..	5½ miles.
Chimney on near end of house on Hooper Point	355	32	..	2¾ miles.

REDE.

General locality.—Southwestern shore of Little Choptank River on James Island about 3 miles west-northwest of Hooper Point. (See Charts Nos. 36 and 37.)

Immediate locality.—Observed station is on two-story house on the east side of James Island and on the south side of Oyster Creek at its mouth.

Marks.—Eastern chimney of two-story house.

References.—None necessary.

JAMES.

General locality.—Eastern side of Chesapeake Bay on northeast end of James Island at south side of entrance to Little Choptank River. (See Charts Nos. 36 and 37.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, 8 yards west of shore, 11 yards northwest of shore, 85 yards south of shore, and 75 yards east of pine woods. Cement monument marking reference station is 19.48 meters S 84° 17′ W of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Robins" (N 23° 14′ E)	0	00	00	2¾ miles.
Near peak of house	12	37	..	3½ miles.
Chimney on near end of house	48	42	..	3¼ miles.
Near peak of barn	89	01	..	4¼ miles.
Near chimney of house on Hooper Point	100	36	..	3 miles.
Left peak of long barn	107	05	..	3½ miles.
Near peak of barn	146	09	..	2½ miles.
REFERENCE STATION	241	03	00	19.48 meters.
"Sharps Island Light"	320	02	40	7¾ miles.
Right edge of old hotel on Sharps Island	321	43	..	6¼ miles.
Left tangent of woods on Cook Point	357	29	..	7 miles.

NELSON 3.

General locality.—Northern shore of Choptank River on Nelson Island, between the entrance to Harris and Broad Creeks. (See Progress map.)

Immediate locality.—Observed station is on southwest point of island on marsh about 2 feet above high water, 28 yards north-northeast of extreme end of point, 45 yards northwest of edge of marsh, and 14 yards east of marsh. Cement monument marking reference station is 32.27 meters N 32° 05′ E of observed station.

Marks.—Observed station is center of nail in 3-inch square stub in tile pipe flush with ground. Reference station is center point of triangle on standard cement monument projecting 5 inches above surface of ground.

References.—	°	′	″	
"Choptank River Light" (S 56° 09′ E)	0	00	00	5¼ miles.
"Large Water Tank"	10	09	50	7½ miles.
Right chimney of house	31	48	..	7 miles.
Near chimney outside of house	45	44	..	5¾ miles.
Near peak of barn on Cook Point	67	40	..	5¾ miles.
Left peak of hotel on Sharps Island	98	03	..	7⅝ miles.
"Sharps Island Light"	109	04	20	7⅞ miles.
Chimney of house	137	36	..	4 miles.
Stack of cannery at Tilghman Island	153	43	..	3½ miles.
Windmill at Tilghman Island	155	12	..	3¼ miles.
Chimney of house on Change Point	185	37	..	1¾ miles.
Left peak of house	197	50	..	1½ miles.
Chimney of house	254	10	..	2⅝ miles.
"St. Michaels Church Spire"	259	55	10	6¼ miles.
REFERENCE STATION	268	13	20	32.27 meters.
Left peak of building	293	43	..	2⅛ miles.
Near peak of house with three chimneys	335	18	..	3 miles.

ANNETTE.

General locality.—Western shore of Broad Creek about ¾ mile north of Nelson Point, and on south side of entrance to Balls Creek. (See Progress map.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, and 4 yards west of shore. Cement monument marking reference station is 9.39 meters N 75° 59′ W of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 3 inches above surface of ground.

References.—

	°	′	″	
"Myrtle" (N 15° 29′ E)	0	00	00	⅝ mile.
South chimney of house	18	39	..	3⅝ miles.
South chimney of house	29	53	..	3¾ miles.
South gable of barn	35	01	..	3½ miles.
Chimney of house	36	35	..	3½ miles.
South gable of barn	72	54	..	2 miles.
West chimney of house	102	19	..	3⅜ miles.
"Choptank River Light"	116	34	40	6¼ miles.
Water tank at Castle Haven	123	54	..	8¼ miles.
North gable of barn on Todd Point	148	31	..	6½ miles.
Nail in blaze in cedar tree (10 inches diameter)	187	26	00	11.37 meters.
Nail in blaze in cedar tree (10 inches diameter)	235	06	30	16.81 meters.
REFERENCE STATION	268	29	40	9.39 meters.

PEARY.

General locality.—Eastern shore of Broad Creek about 1 mile north of entrance to Broad Creek, 1⅜ miles north of Royston Island and 1¾ miles east-northeast of Nelson Point. (See Progress map.)

Immediate locality.—Observed station is on wooded shore about 6 feet above high water, 3 yards east of vertical bank which is washed by high water 100 yards south of north end of pine woods. Cement monument marking reference station is 20.93 meters N 43° 30′ E of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 3 inches above surface of ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Roys" (S 17° 35′ E)	0	00	00	1½ miles.
Left tangent of Cook Point	44	53	..	6¼ miles.
Right tangent of Nelson Point	96	09	..	1¾ miles.
East chimney of house	117	03	..	2 miles.
East gable of Parlett house	131	52	..	2¾ miles.
South gable of barn	168	59	..	1⅞ miles.
Nail in blaze in pine tree (15 inches diameter)	233	25	40	17.49 meters.
REFERENCE STATION	241	04	50	20.93 meters.
Nail in blaze in pine tree (15 inches diameter)	307	35	10	15.45 meters.

IRISH.

General locality.—Northeastern shore of Choptank River on west side of entrance to Irish Creek about ⅜ mile northeast of Royston Island. (See Progress map.)

Immediate locality.—Observed station is in cultivated land, about 5 feet above high water, 13 yards east-northeast of edge of bank, 5 yards north of foot of bank, 4 yards north of a cedar tree, 10 yards west of a small cedar tree at west end of line of locust trees, and 23 yards east-southeast of rounded point of bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Pont" (N 13° 04′ E)	0	00	00	½ mile.
Near peak of building	25	49	..	1¼ miles.
Nail in blaze in locust tree (2 inches diameter)	68	52	50	16.33 meters.
Left peak of house	98	15	..	⅝ mile.
Left peak of barn	123	13	..	1 mile.
Nail in blaze in cedar tree (7 inches diameter)	152	52	10	4.29 meters.
Near peak of house	185	06	..	5 miles.
Nail in blaze in cedar tree (2 inches diameter)	206	33	40	6.24 meters.
"Sharps Island Light"	230	10	20	9 miles.
Near peak of house	291	12	..	3¾ miles.
Near peak of barn	348	54	..	300 yards.

ROYS.

General locality.—Northeastern side of Choptank River on southern end of Royston Island, about ½ mile southwest of entrance to Irish Creek. (See Progress map.)

Immediate locality.—Observed station is about 5 feet above high water, 15 yards north of shore, 25 yards east of shore, and 25 yards northeast of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Choptank River Light" (S 44° 37′ E)	0	00	00	3⅝ miles.
"Large Water Tank"	9	09	00	5⅝ miles.
Peak of large barn	49	44	..	4½ miles.
Right peak of barn	71	08	..	5¾ miles.
Windmill	71	18	..	5¾ miles.
"Sharps Island Light"	109	16	30	8¾ miles.
Church Spire	134	43	..	6 miles.
Church Spire	134	47	..	6 miles.
Large spire	134	57	..	6 miles.
Windmill	146	07	..	5¾ miles.
Chimney of house	170	03	..	3 miles.
Near peak of large barn	200	28	..	3½ miles.
Nail in blaze in oak tree (3 inches daimeter)	215	43	10	10.64 meters.
Nail in blaze in oak tree (3 inches diameter)	281	24	20	6.22 meters.
Nail in blaze in cedar tree (5 inches diameter)	358	28	40	15.92 meters.

CREEK.

General locality.—Northeastern shore of Choptank River on east side of entrance to Irish Creek, about ⅝ mile east-northeast of Royston Island. (See Progress map.)

Immediate locality.—Observed station on marsh point about 1 foot above high water, 11 yards southeast of shore, 11 yards east of shore, 17 yards north-northeast of shore, and 14 yards south of cut in shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Dot" (S 17° 34′ W)	0	00	00	.....	4⅝ miles.
Right corner of house	118	45	..	.....	⅝ mile.
Right corner of house	146	12	..	.....	1¼ miles.
Left peak of house	184	09	..	.....	1⅜ miles.
Left corner of large chimney	230	02	..	.....	⅝ mile.
Near peak of large building	354	09	..	.....	5¾ miles.

CORNER (CHOPTANK RIVER).

General locality.—Southern shore of Choptank River on east side of entrance to Chapel Creek, about 2 miles southeast of Todd Point, and 3 miles south-southwest of Choptank River Light. (See Chart No. 37.)

Immediate locality.—Observed station is on grassy land about 3 feet above high water, 30 yards east of shore, 30 yards south of shore, 35 yards southeast of extreme end of point, and west of small clump of small pine trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Dot" (N 58° 43′ W)	0	00	00	.....	2⅛ miles.
Nail in blaze in holly tree (14 inches diameter)	35	13	40	.....	13.81 meters.
"Choptank River Light"	75	55	20	.....	3 miles.
Nail in blaze in pine tree (4 inches diameter)	105	03	00	.....	3.57 meters.
Right corner of new house	108	42	..	.....	½ mile.
Nail in blaze in pine tree (5 inches diameter)	187	20	10	.....	8.21 meters.
Near peak of 2½-story house	308	25	..	.....	⅞ mile.
Chimney outside right end of house	340	33	..	.....	2 miles.
Chimney outside near end of house	356	46	..	.....	2¼ miles.

DOT.

General locality.—Southern shore of Choptank River on Todd Point, about 3 miles east of Cook Point, and 3½ miles southwest of Choptank River Light. (See Chart No. 37.)

Immediate locality.—Observed station is about 4 feet above high water, 55 yards west-southwest of shore, 30 yards south-southwest of edge of bank, 40 yards south by east of point where bank meets marsh, 70 yards south by west of extreme end of point, and 200 yards northeast by north of a house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Choptank River Light" (S 56° 26′ E)	0	00	00	.....	3¼ miles.
"Large Water Tank"	37	36	00	.....	3½ miles.
Near peak of house	42	45	..	.....	2¾ miles.
Near peak of building	72	49	..	.....	2¼ miles.
Chimney outside right end of house	102	18	..	.....	1⅜ miles.
Chimney outside near end of house	175	25	..	.....	200 yards.
Left chimney of house on Cook Point	212	24	..	.....	2¾ miles.
"Sharps Island Light"	218	32	40	.....	7½ miles.
Church Spire	250	04	40	.....	7¼ miles.
Left peak of house	277	10	..	.....	7¼ miles.
Near peak of barn	290	09	..	.....	7½ miles.
Cupola on house	333	02	..	.....	3⅝ miles.

HUDSON.

General locality.—Northern shore of Little Choptank River on Casons Point, about 1 mile north of Susquehanna Point, and 1¼ miles east-northeast of Ragged Point. (See Chart No. 37.)

Immediate locality.—Observed station is on sand beach about on level with high water, 2 yards south of a rail fence extending along shore, and 130 yards west-northwest of end of woods at shore. Cement monument marking reference station is 29.65 meters N 8° 30′ W of observed station. Four-inch tile pipe marking old reference station is 3.99 meters N 7° 14′ W of observed station.

Marks.—Observed station is center of 4-inch tile pipe set in cement projecting 3 inches above surface of cement and 6 inches above surface of ground. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Old reference station is center of 4-inch tile pipe projecting 3 inches above surface of ground.

References.—

	°	′	″	
"Jenifer" (N 1° 41′ W)	0	00	00	¾ mile.
Left chimney of 1½-story house	13	24	..	1¼ miles.
Near peak of barn	30	45	..	1⅝ miles.
"Madison Southern M. E. Church Spire"	145	10	30	2¾ miles.
Near peak of barn	213	30	..	3½ miles.
Left chimney of house on Hooper Point	223	01	..	3⅝ miles.
Near peak of house	251	57	..	5 miles.
Right chimney of house	327	50	..	¼ mile.
Near peak of barn	350	21	..	½ mile.
Near peak of house	352	51	..	¾ mile.
NEW REFERENCE STATION (CEMENT MONUMENT)	353	11	50	29.65 meters.
OLD REFERENCE STATION (TILE PIPE)	354	26	30	3.99 meters.

JENIFER.

General locality.—Western shore of Hudson Creek about ⅜ mile northwest of entrance to Back Creek and ¾ mile north of Casons Point. (See Chart No. 37.)

Immediate locality.—Observed station is on edge of cultivated field about 2 feet above high water, 8 yards northeast of shore, 9 yards southwest of shore, 55 yards north by west of extreme end of marsh point, and 65 yards southeast of corner of wire fence about in line with a barn.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Henry" (N 1° 06′ W)	0	00	00	⅛ mile.
Tangent of left end of Ross Wharf	8	55	..	1 mile.
Near peak of barn	20	24	..	1 mile.
Chimney on left end of house	32	30		½ mile.
Near peak of barn	64	33	..	⅝ mile.
Chimney on near end of house	85	48	..	1 mile.
Chimney on near end of house	119	59	..	2 miles.
"Madison Southern M. E. Church spire"	151	57	30	3 miles.
Tangent of Casons Point	159	58	..	¾ mile.
Chimney on near end of house	189	26	..	¼ mile.
Near peak of house	225	32	..	¼ mile.
Lightning rod on house	276	57	..	225 yards.
Near peak of barn	304	00	..	⅛ mile.

HENRY.

General locality.—Western shore of Hudson Creek at south side of entrance to a cove about 1 mile north of Casons Point. (See Chart No. 37.)

Immediate locality.—Observed station is about 2 feet above high water, 5 yards south of shore, 5 yards northwest of shore, 10 yards west of extreme end of point, and 34 yards north of wire fence at shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Mitchell" (N 3° 08′ E)	0	00	00	¼ mile.
Tangent to left end of Ross Wharf	5	28	..	⅜ mile.
Chimney in center of small house	17	23	..	⅜ mile.
Chimney on left end of house	41	04	..	⅜ mile.
Near peak of barn	56	29	..	⅜ mile.
Chimney on near end of house	96	44	..	⅝ mile
"Madison Southern M. E. Church spire"	148	58	00	3 miles.
Chimney on right end of house	209	20	..	⅛ mile.
Chimney on left end of house	340	27	..	¼ mile.

MITCHELL.

General locality.—Western shore of Hudson Creek about ⅝ mile north-northwest of entrance to Back Creek and 1¼ miles north of Casons Point. (See Chart No. 37.)

Immediate locality.—Observed station is in a small grove of oak trees about 2 feet above high water, 11 yards southwest of shore, 12 yards north of shore, and 29 yards west of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Back" (N 70° 51′ E)	0	00	00	¼ mile.
Chimney on near end of house	23	09	..	¼ mile.
Chimney on small house	35	09	..	⅝ mile.
Chimney on right end of house	41	36	..	⅜ mile.
Chimney on right end of house	53	32	..	⅜ mile.
Near peak of house	122	09	..	⅜ mile.
Near peak of barn	133	23	..	⅜ mile.
Nail in blaze in oak tree (18 inches diameter)	178	27	00	8.72 meters.
Nail in blaze in oak tree (16 inches diameter)	194	51	20	14.95 meters.
Chimney on left end of house	276	17	..	¾ mile.
Nail in blaze in oak tree (12 inches diameter)	281	12	30	10.93 meters.
Near peak of barn	321	03	..	⅝ mile.

BACK.

General locality.—Eastern shore of Hudson Creek about ⅝ mile north of entrance to Back Creek and 1⅜ miles north of Casons Point. (See Chart No. 37.)

Immediate locality.—Observed station is on solid ground at edge of woods about 2 feet above high water, 14 yards east of shore, 16 yards northeast of shore, 45 yards south-southeast of shore, and 175 yards north-northwest of a house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Bayly" (S 1° 40′ E)	0	00	00	.....	⅜ mile.
Near chimney of house	29	44	..	.....	¾ mile.
Near peak of house	33	20	..	.....	⅝ mile.
Near peak of barn	42	53	..	.....	½ mile.
Chimney on near end of house	72	05	..	.....	⅜ mile.
Left chimney of house	151	44	..	.....	¾ mile.
Nail in blaze in pine tree (12 inches diameter)	175	02	50	.....	8.05 meters.
Nail in blaze in pine tree (12 inches diameter)	226	14	50	.....	11.19 meters.
Nail in blaze in pine tree (12 inches diameter)	305	13	20	.....	16.04 meters.
Right chimney of house	340	53	..	.....	175 yards.

BAYLY.

General locality.—Eastern shore of Hudson Creek about ⅜ mile north of entrance to Back Creek and 1 mile north of Casons Point. (See Chart No. 37.)

Immediate locality.—Observed station is on marsh about on level with high water, 11 yards east of shore, 20 yards south of shore, 22 yards northeast of shore, 8 yards west of a bank 3 feet high, and 15 yards southwest of a large dead cherry tree.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Jenifer" (S 55°44′ W)	0	00	00	.....	¼ mile.
Near peak of house	9	20	..	.....	⅜ mile.
Left peak of barn	23	59	..	.....	⅜ mile.
Right chimney of house	73	18	..	.....	⅜ mile.
Left chimney of house	103	15	..	.....	1⅛ miles.
Left chimney of house	117	03	..	.....	
Left chimney of house	129	28	..	.....	¼ mile.
Nail in blaze in cherry tree (4 inches diameter)	172	17	00	.....	8.19 meters.
Near peak of small house	193	18	..	.....	⅜ mile.

CARRIE.

General locality.—Eastern shore of Hudson Creek on north side of entrance to Back Creek about ¾ mile north of Casons Point. (See Chart No. 37.)

Immediate locality.—Observed station is near edge of a cultivated field about 4 feet above high water, 15 yards east of shore, 3 yards east of edge of bank, and 160 yards north of point at north side of entrance to Back Creek.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Louise" (S 28° 56′ E)	0	00	00	.....	¼ mile.
"Madison Southern M. E. Church Spire"	3	09	30	.....	3 miles.
Left chimney of house	74	19	..	.....	⅜ mile.
Chimney in center of house	101	56	..	.....	⅜ mile.
Lightning rod on right end of house	126	31	..	.....	⅜ mile.
Left dormer window of house	174	31	..	.....	½ mile.
Left chimney of house	191	27	..	.....	1¼ miles.
Nail in blaze in cedar tree (10 inches diameter)	196	50	50	.....	9.35 meters.
Near peak of barn	229	58	..	.....	½ mile.
Near end of house	285	09	..	.....	1¾ miles.
Near peak of barn	306	17	..	.....	2 miles.

LOUISE.

General locality.—Eastern shore of Hudson Creek on point at south side of entrance to Back Creek about ¼ mile north of Casons Point. (See Chart No. 37.)

Immediate locality.—Observed station is on sand and marsh point about 1 foot above high water, 18 yards north-northeast of shore, 22 yards southeast of shore, 30 yards northwest of shore, and 30 yards east-northeast of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Mac" (S 64° 57′ E)	0	00	00	1⅛ miles.
Chimney of house	0	39	..	1½ miles.
"Madison Southern M. E. Church Spire"	39	32	00	2½ miles.
Tangent of Casons Point	74	06	..	½ mile.
Center chimney of house	129	17	..	½ mile.
Left end of house	155	13	..	½ mile.
Chimney in center of house	172	15	..	½ mile.
Near peak of barn	192	22	..	⅝ mile.
Near peak of barn	280	20	..	½ mile.
Right chimney of house	302	08	..	⅝ mile.
Right chimney of house	338	31	..	2 miles.

GREENWELL.

General locality.—Northwestern shore of Little Choptank River on point of land at north side of entrance to a cove between Butter Pot Point and Cedar Point about ¾ mile northwest of McKeils Point. (See Chart No. 37.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 5 yards north of shore, 13 yards southwest of shore, and 25 yards northwest of extreme end of point. Cement monument marking reference station is 27.78 meters N 35° 11′ W of observed station.

Marks.—Observed station is nail in pine stub projecting 12 inches above surface of ground. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—

	°	′	″	
"Ross" (N 62° 17′ E)	0	00	00	¾ mile.
Near peak of barn	32	39	..	1⅜ miles.
"Madison Southern M. E. Church Spire"	102	24	30	2½ miles.
Left peak of large house	126	28	..	2 miles.
Near peak of barn	155	20	..	4⅜ miles.
Center chimney of house	189	03	..	1 mile.
Near peak of barn	253	14	..	⅝ mile.
REFERENCE STATION	262	32	50	27.78 meters.
Near peak of barn	309	25	..	¼ mile.
Left chimney of house	314	49	..	¼ mile.
Center chimney of house	344	58	..	¾ mile.

ROSS.

General locality.—Northwestern shore of Little Choptank River on Cedar Point about ¾ mile north of entrance to Fishing Creek. (See Chart No. 37.)

Immediate locality.—Observed station is on marsh point about 1 foot above high water, 25 yards southwest of shore, 30 yards west of shore, 60 yards north by west of extreme end of point, and 150 yards east by south of four pine trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Lee" (N 51° 25′ E)	0	00	00	⅝ mile.
Chimney on near peak of house	21	43	..	2¾ miles.
Near peak of barn	23	09	..	2¾ miles.
Chimney on near end of house	43	27	..	⅞ mile.
Near peak of barn	71	32	..	1⅛ miles.
Chimney on left end of house	100	13	..	2 miles.
A cupola	101	09	..	2 miles.
Left one of four pine trees standing together	233	19	..	150 yards.
Right chimney of 1½-story house	272	46	..	⅛ mile.
Left chimney of house	292	11	..	1¼ miles.
Center of roof of bungalow on Cherry Island	341	28	..	1 mile.

PHIL.

General locality.—Northwestern shore of entrance to Beckwith and Phillips Creeks on point at west side of entrance to Phillips Creek about ¼ mile northeast of Cherry Island. (See Chart No. 37.)

Immediate locality.—Observed station is on sand and marsh about 1 foot above high water, 12 yards southwest of shore, 33 yards north of shore, 25 yards west-northwest of extreme end of point, and 40 yards from trees along edge of cultivated field.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Cherry Island Water Tank" (S 72° 48′ E)	0	00	00	⅜ mile.
Tangent of Town Point	64	42	..	1⅛ miles.
Tangent of McKeils Point	82	21	..	1¾ miles.
Near peak of barn	102	15	..	¾ mile.
Chimney on near end of house	222	19	..	1¼ miles.
Chimney on left end of house	245	00	..	½ mile.
Near peak of house	319	59	..	¾ mile.

DUPONT.

General locality.—Western shore of Beckwith Creek about ⅛ mile northwest of the northeast end of Cherry Island. (See Chart No. 37.)

Immediate locality.—Observed station is in a grove of small pine trees about 1 foot above high water, 17 yards west of shore, 25 yards northwest of shore, and 35 yards north of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Cherry Island Water Tank" (S 12° 29′ W)	0	00	00	⅜ mile.
Center of roof of bungalow on Cherry Island	6	09	..	⅜ mile.
Chimney on near end of house	25	05	..	1⅛ miles.
Nail in blaze in holly tree (4 inches diameter)	34	05	30	6.55 meters.
Near end of 1½-story house	46	39	..	⅞ mile.
Nail in blaze in cedar tree (6 inches diameter)	106	30	50	12.84 meters.
Near peak of barn	205	33	..	1 mile.
Near peak of house	242	50	..	¼ mile.
Between two chimneys on house	295	09	..	½ mile.
Nail in blaze in pine tree (6 inches diameter)	297	22	40	6.60 meters.

BECKWITH.

General locality.—Eastern shore of Beckwith Creek about ¼ mile northeast of the northeast end of Cherry Island. (See Chart No. 37.)

Immediate locality.—Observed station is near edge of a cultivated field about 2 feet above high water, 30 yards northeast of shore, 35 yards east of shore, 35 yards southeast of shore, and about ⅛ mile south by east of small 1½-story house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Cherry Island Water Tank" (S 53° 40′ W)...	0	00	00	..... ½ mile.
Chimney of small house on Cherry Island.....	4	38	..	..... ½ mile.
Near peak of barn.....	21	51	..	..... 1¼ miles.
Nail in blaze in locust tree (4 inches diameter).	93	09	50	..... 20.32 meters.
Near peak of barn.....	97	47	..	..... ½ mile.
Nail in blaze in locust tree (3 inches diameter).	102	49	30	..... 19.46 meters.
Near peak of barn.....	165	55	..	..... ½ mile.
Left chimney of house.....	300	34	..	..... ¼ mile.

CHERRY ISLAND WATER TANK.

General locality.—Northeastern side of Little Choptank River on Cherry Island. (See Chart No. 37.)

Immediate locality.—Observed station is on water tower on south end of Cherry Island.

Marks.—Observed station is flagstaff on water tank on Cherry Island.

References.—None necessary.

LEE.

General locality.—North shore of upper Little Choptank River on point between Little Choptank River and Beckwiths Creek. (See Chart No. 37.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 5 yards northeast of shore, 25 yards south of shore, 60 yards east-southeast of extreme end of point, and 175 yards west-northwest of pine woods at shore. Cement monument marking reference station is 11.51 meters N 4° 54′ E of observed station.

Marks.—Observed station is nail in 3-inch pine stub with top flush with surface of ground. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″	
"Cherry Island Water Tank" (N 4° 08′ E)....	0	00	00	..... ⅜ mile.
REFERENCE STATION.....	0	46	00	..... 11.51 meters.
Right chimney of house.....	23	46	..	..... ⅞ mile.
Near peak of barn.....	76	32	..	..... 2¼ miles.
Near peak of barn.....	95	31	..	..... 1⅞ miles.
Tangent of McKeils Point.....	201	44	..	..... 1¼ miles.
Near peak of barn.....	251	02	..	..... ⅝ mile.
Left chimney of house.....	323	30	..	..... 1¾ miles.
Center of roof of bungalow on Cherry Island...	354	28	..	..... ⅜ mile.

SOLOMON.

General locality.—Northern shore of upper Little Choptank River on point west at side of entrance to Solomons Cove about 1⅜ miles northeast of Town Point. (See Chart No. 37.)

Immediate locality.—Observed station is on marsh point about on level with high water, 1 yard east of shore, 3 yards west of shore, and 5 yards north of extreme end of point. Cement monument marking reference station is 14.34 meters N 2° 39′ W of observed station.

Marks.—Observed station is nail in cedar stub with top flush with surface of ground. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″		
"Lee" (S 72 °38′ W)	0	00	00	.....	⅞ mile.
"Cherry Island Water Tank"	22	45	50	.....	⅞ mile.
Near chimney of house	33	38	..	.....	⅞ mile.
REFERENCE STATION	104	42	20	.....	14.34 meters.
Chimney of house	124	37	..	.....	¼ mile.
Right peak of barn	201	41	..	.....	1¼ miles.
Near peak of barn	254	10	..	.....	½ mile.
Near peak of barn	303	39	..	.....	½ mile.
Chimney on near end of house	357	56	..	.....	1½ miles.

SETH.

General locality.—Northern shore of upper Little Choptank River opposite entrance to Smiths Cove, and about ½ mile east of Solomons Cove. (See Chart No. 37.)

Immediate locality.—Observed station is on marsh point about on level with high water, 3 yards northwest of shore, 5 yards northeast of shore, and 100 yards west-southwest of extreme end of point. Cement monument marking reference station is 24.90 meters N 26° 06′ W of observed station.

Marks.—Observed station is nail in cedar stub with top flush with surface of ground. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″		
"Adam" (S 21° 04′ W)	0	00	00	.....	¼ mile.
Near peak of barn	12	11	..	.....	½ mile.
Middle chimney of house	14	52	..	.....	¾ mile.
Chimney on center of house	32	07	..	.....	¾ mile.
Chimney on near end of house	54	58	..	.....	2¼ miles.
REFERENCE STATION	132	50	30	.....	24.90 meters.
Chimney on left end of house	181	37	..	.....	¾ mile.
Chimney on right end of house	194	13	..	.....	1¼ miles.
Near peak of large house	208	17	..	.....	¾ mile.
Chimney on near end of small house	236	50	..	.....	½ mile.
Right chimney of house	263	57	..	.....	⅝ mile.
Right peak of barn	321	40	..	.....	1 mile.

ADAM.

General locality.—Southeastern shore of upper Little Choptank River about ⅛ mile west of entrance to Smith Cove. (See Chart No. 37.)

Immediate locality.—Observed station is on marsh point about on level with high water, 3 yards south of shore, 3 yards southwest of shore, and 6 yards east of shore. Cement monument marking reference station is 27.50 meters S 33° 31′ E of observed station.

Marks.—Observed station is nail in cedar stub projecting 5 inches above surface of ground. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″		
"Seth" (N 21° 03′ E)	0	00	00	.....	¼ mile.
Chimney on 1½-story house	1	10	..	.....	1⅛ miles.
Chimney on right end of house	11	50	..	.....	1¼ miles.
Near peak of large house	19	50	..	.....	1 mile.
Chimney on near end of small house	42	36	..	.....	1 mile.
Near peak of barn	47	07	..	.....	1 mile.
Near peak of barn	49	58	..	.....	1 mile.
REFERENCE STATION	125	25	30	.....	27.50 meters.
Near peak of barn	204	36	..	.....	¼ mile.
Near chimney of house	211	16	..	.....	¾ mile.
Near peak of barn	244	05	..	.....	2 miles.

LAYTON.

General locality.—Southeast shore of Little Choptank River about ½ mile south of Solomons Cove and 1¼ miles east-northeast of Town Point. (See Chart No. 37.)

Immediate locality.—Observed station is about 1 foot above high water, 2 yards east of edge of bank 1 foot high, 23 yards west of shore, 24 yards south-southwest of shore, 30 yards northwest of shore, 18 yards north of a graveyard, and 150 yards northeast of a house. Cement monument marking reference station is 17.13 meters S 45° 02′ E of observed station.

Marks.—Observed station is nail in locust stub with top flush with surface of ground. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″	
"Lee" (N 79° 26′ W)	0	00	00	1 mile.
Right chimney of house	3	36	..	1⅝ miles.
"Cherry Island Water Tank"	19	34	10	1 mile.
Chimney on center of house	82	18	..	⅞ mile.
Nail in blaze in cedar tree (8 inches diameter)	108	55	40	3.85 meters.
Chimney on near end of small house	144	51	..	1¼ miles.
Nail in blaze in cedar tree (6 inches diameter)	167	51	40	6.49 meters.
Near chimney of house	172	50	..	¼ mile.
REFERENCE STATION	214	23	30	17.13 meters.
Near chimney of house	306	53	..	150 yards.
Near peak of barn	346	20	..	1½ miles.

DAVID.

General locality.—Southern shore of upper Little Choptank River on point about ⅝ mile northeast of Town Point and ⅜ mile southeast of Lee Point. (See Chart No. 37.)

Immediate locality.—Observed station is on a marsh point about on level with high water, 3 yards west of shore, 3 yards east of shore, 3 yards south of extreme end of point, and 100 yards north of pine woods. Cement monument marking reference station is 15.24 meters S 2° 58′ E of observed station.

Marks.—Observed station is a nail in 3-inch pine stub flush with surface of ground. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″	
"Town" (S 47° 24′ W)	0	00	00	⅝ mile.
Tangent of Butter Pot Point	12	18	..	1¾ miles.
Near peak of barn	32	37	..	1½ miles.
Center chimney of house	34	46	..	1⅜ miles.
Near peak of barn	49	57	..	1 mile.
Chimney on near end of house	93	55	..	2 miles.
Left end of barn roof	147	58	..	⅝ mile.
Near peak of barn	203	42	..	2 miles.
REFERENCE STATION	309	37	30	15.24 meters.

TOWN.

General locality.—Southeastern shore of Little Choptank River on northeast side of entrance to Fishing Creek on Town Point. (See Chart No. 37.)

Immediate locality.—Observed station is on a small marsh point on the north side of Town Point about 1 foot above high water, 9 yards east of shore, 14 yards southwest of shore, 14 yards south-southeast of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe with top 2 inches below base of monument.

References.—	°	′	″		
"Lee" (N 8° 42′ E)	0	00	00	.....	⅝ mile.
Peak of barn showing through trees	111	53	..	.....	⅝ mile.
Tangent of Casons Point	236	40	..	.....	1¾ miles.
Near peak of barn	268	16	..	.....	2 miles.
Near peak of large barn	270	18	..	.....	1 mile.
Center chimney of house	274	20	..	.....	1 mile.
Left chimney of house	300	39	..	.....	⅝ mile.
Right chimney of house	318	44	..	.....	1⅛ miles.
Center chimney of house	342	06	..	.....	1⅝ miles.
Center of near side of roof of bungalow on Cherry Island	356	30	..	.....	1 mile.

SWEP.

General locality.—Northeastern shore of Fishing Creek about ¾ mile east-northeast of McKeils Point and ¼ mile east-southeast of Town Point. (See Chart No. 37.)

Immediate locality.—Observed station is on firm land about 1 foot above high water, 9 yards northeast of shore, 10 yards northwest of shore, 7 yards north of extreme end of point, and 30 yards southwest by south of near corner of a dairy.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Hugh" (S 8° 20′ E)	0	00	00	.....	½ mile.
Near chimney of house	2	23	..	.....	1⅛ miles.
Chimney on right end of house	41	48	..	.....	⅞ mile.
Tangent of McKeils Point	75	01	..	.....	¾ mile.
Center chimney of house	116	11	..	.....	1¼ miles.
Tangent of Town Point	116	20	..	.....	¼ mile.
Near corner of dairy	214	18	..	.....	30 yards.
Nail in apple tree (10 inches diameter)	221	54	10	.....	13.14 meters.
Near peak of house	301	55	..	.....	¼ mile.

HUGH.

General locality.—Eastern shore of Fishing Creek about ¾ mile southeast of Town Point and ¾ mile northwest of Windmill Point. (See Chart No. 37.)

Immediate locality.—Observed station is on high marsh about 2 feet above high water, 12 yards northeast of shore, 13 yards southeast of shore, and 17 yards east of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Etta" (S 64° 09′ E)	0	00	00	.....	½ mile.
Near peak of barn	136	28		.....	⅝ mile.
Near chimney of house	138	34	..	.....	½ mile.
Tangent of McKeils Point	168	46	..	.....	½ mile.
Near peak of barn	175	17	..	.....	2½ miles.
Near peak of barn	185	52	..	.....	1⅝ miles.
Left chimney of house	188	25	..	.....	1⅝ miles.
Middle chimney of house	205	46	..	.....	1½ miles.
Left chimney of house	236	05	..	.....	½ mile.
Nail in blaze in twin dead cedar tree	252	02	30	.....	13.64 meters.

ETTA.

General locality.—Northeastern shore of Fishing Creek at east side of entrance to a small creek about ¼ mile north of Windmill Point. (See Chart No. 37.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, 8 yards east of shore, 9 yards northeast of shore, 11 yards southeast of shore, and 100 yards west of a barn.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Mary" (S 1° 38′ E)	0	00	00	¼ mile.
Cupola on Brooks barn	28	39	..	¾ mile.
Center of cupola on Brooks workshop	31	45	..	¾ mile.
Right chimney of house	47	13	..	⅝ mile.
Left peak of house	96	59	..	1 mile.
Chimney on near end of house	134	04	..	⅛ mile.
Near peak of house	144	11	..	⅛ mile.
Near peak of large part of house	217	34	..	⅛ mile.
Peak of barn	258	47	..	100 yards.

MARY.

General locality.—Northeastern shore of Fishing Creek on Windmill Point, about 1½ miles southeast of Little Choptank River entrance to Fishing Creek. (See Chart No. 37.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 11 yards northwest of shore, 17 yards southeast of shore, and 18 yards east of shore. Cedar stub marking old station "Windmill Point" is 12.60 meters S 82 22′ W of observed station.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—		′	″	
"Neil" (S 86° 09′ E)	0	00	00	⅝ mile.
Near peak of house	23	41	..	⅝ mile.
Right chimney of house	30	19	..	1⅛ miles.
Right chimney of house	47	26	..	⅝ mile.
Right chimney of house	100	37	..	½ mile.
Left chimney of Brooks house	125	56	..	⅝ mile.
Cupola on Brooks workshop	132	58	..	⅝ mile.
Right chimney of house	156	43	..	½ mile.
"Windmill Point" (cedar stub)	168	31	20	12.60 meters.
Near peak of barn	212	09	..	2¼ miles.

NEIL.

General locality.—Northern shore of Fishing Creek about ⅝ mile east of Windmill Point. (See Chart No. 37.)

Immediate locality.—Observed station is on third marsh point east of Windmill Point about 1 foot above high water, 3 yards north of shore, 5 yards northeast of shore, 5 yards northwest of shore, 70 yards south-southeast of gate to yard of farm house, and 115 yards south of farmhouse. Cement monument marking reference station is 26.10 meters N 5° 41′ E of observed station.

Marks.—Observed station is nail in cedar stub with top flush with surface of ground. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″	
"Tom" (S 68° 55′ W)	0	00	00	¾ mile.
Cupola on Brooks barn	3	45	..	1 mile.
Center of Brooks workshop cupola	4	35	..	1 mile.
Chimney of house	41	02	..	¼ mile.

References—Continued.	°	′	″	
Near chimney of house	93	07		110 yards.
Cupola on barn	106	02		140 yards.
REFERENCE STATION	116	45	30	26.10 meters.
Near chimney of house	185	52		⅜ mile.
Near peak of house	199	48		1 mile.
Lightning rod on right end of house	307	25		¼ mile.
Near peak of house	351	38		⅞ mile.

KIRBY.

General locality.—Northern shore of Fishing Creek opposite entrance to Church Creek about 1 mile east of Windmill Point. (See Chart No. 37.)

Immediate locality.—Observed station is on solid land about 1 foot above high water, 5 yards north of shore, 6 yards northeast of shore, 10 yards east of shore, 45 yards southwest of wire fence, and 125 yards south of a small house. Cement monument marking reference station is 19.99 meters N 5° 25′ E of observed station.

Marks.—Observed station is nail in stub with top flush with surface of ground. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of the ground.

References.—	°	′	″	
"Neil" (S 85° 03′ W)	0	00	00	⅜ mile.
Left chimney of large house	9	29		⅜ mile.
Cupola on barn	17	20		⅜ mile.
Near peak of house	69	50		125 yards.
Right chimney of house	79	22		¼ mile.
REFERENCE STATION	100	21	40	19.99 meters.
Near peak of house	162	42		¼ mile.
Two chimneys of house nearly in range	186	31		¾ mile.
Right chimney of house	281	32		⅝ mile.
Left chimney of house	327	52		¾ mile.
Center lightning rod of house	332	48		¼ mile.
Cupola on Brooks barn	351	25		1⅜ miles.

PAUL (LITTLE CHOPTANK RIVER).

General locality.—Northern shore of Fishing Creek, about 1⅛ miles northeast of Deep Water Point. (See Progress map.)

Immediate locality.—Observed station is near edge of a garden about 1 foot above high water, 8 yards north of shore, 10 yards west of shore, 13 yards northeast of shore, and 40 yards southeast of a 1½-story house. Cement monument marking reference station is 8.53 meters N 28° 53′ W of observed station.

Marks.—Observed station is nail in locust stub with top flush with surface of ground. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″	
"Neil" (S 76° 32′ W)	0	00	00	1⅞ miles.
Cupola on barn	7	37		1½ miles.
Near corner of house	47	49		40 yards.
REFERENCE STATION	74	35	00	8.53 meters.
Near chimney of house	168	51		¼ mile.
Near peak of barn	190	58		1⅛ miles.
Right chimney of house	243	15		½ mile.
Near peak of barn	258	13		½ mile.
Near peak of barn	321	55		1⅛ miles.
Left chimney of house	343	18		1⅜ miles.
Near peak of house	352	35		1¾ miles.
Cupola on Brooks barn	358	14		2 miles.

CHURCH CREEK (NO. 1 WEST).

General locality.—Western shore of Church Creek, about ⅜ mile south of Fishing Creek. (See Chart No. 37.)

Immediate locality.—Observed station is near edge of cultivated land about 2 feet above high water, 3 yards south of shore, 20 yards northwest of shore, and 30 yards east of extreme end of point. Cement monument marking reference station is 14.60 meters S 4° 47′ W of observed station.

Marks.—Observed station is nail in stub projecting 2 inches above surface of ground. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″	
"Kirby" (N 1° 27′ W)	0	00	00	⅝ mile.
Near peak of left one of two barns	26	38	..	1 mile.
Near peak of barn	41	32	..	1 mile.
Chimney of 1½-story house	131	24	..	¼ mile.
REFERENCE STATION	186	13	40	14.60 meters.
Chimney on near end of house	228	21	..	200 yards.
Chimney on left end of house	300	05	..	½ mile.
Right chimney of large house	326	54	..	¾ mile.
Chimney on left end of 1½-story house	356	27	..	⅝ mile.

AUSTIN.

General locality.—Southern shore of Fishing Creek, on a point about ⅝ mile east-southeast of Windmill Point. (See Chart No. 37.)

Immediate locality.—Observed station is at edge of young orchard about 3 feet above high water, 18 yards south of shore, 35 yards southwest of shore, 2 yards southwest of edge of bank next to marsh, 10 yards east of edge of bank, and 75 yards north-northwest of near corner of a two-story house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Tom" (S 86° 17′ W)	0	00	00	⅝ mile.
Left chimney of house	9	38	..	1 mile.
Left chimney of house	108	10	..	¼ mile.
Chimney on left end of house	149	11	..	½ mile.
Near peak of 1½-story house	158	55	..	1⅛ miles.
Near peak of house	172	21	..	1 mile.
Nail in blaze in persimmon tree (10 inches diameter)	213	14	50	4.86 meters.
Near corner of house	237	36	..	75 yards.
Near peak of house	347	06	..	¾ mile.
Cupola on Brooks barn	358	49	..	⅞ mile.
Center of cupola on Brooks workshop	359	18	..	⅞ mile.

TOM.

General locality.—Southwestern shore of Fishing Creek, on a point of land between two coves, about ¼ mile south of Windmill Point, and 1¼ miles southeast of Little Choptank River. (See Chart No. 37.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 9 yards southwest of end of point, and 10 yards southeast of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Brooks" (S 89° 03′ W)	0	00	00	¼ mile.
Left chimney of house	20	00	..	⅜ mile.
Near peak of barn	58	43	..	2¾ miles.
Chimney on middle of house	145	02	..	⅝ mile.
Chimney on left end of large house	154	12	..	¾ mile.
Chimney on near end of house	162	17	..	1⅛ miles.
Center lightning rod on large house	181	03	..	⅝ mile.
Near chimney of house	205	55	..	½ mile.
Center of cupola on barn	288	51	..	⅛ mile.
Left chimney of house	300	30	..	125 yards.
Cupola on Brooks barn	353	38	..	¼ mile.
Center of cupola on Brooks workshop	355	15	..	¼ mile.

BROOKS.

General locality.—Southwestern shore of Fishing Creek, near Brooks shipyard, about ½ mile southwest of Windmill Point.. (See Chart No. 37.)

Immediate locality.—Observed station is on marsh about 8 yards south of shore, 11 yards southeast of shore, 15 yards northeast of shore, and 50 yards north by west of northeast end of large workshop.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Doctor" (N 2° 28′ E)	0	00	00	⅜ mile.
Near peak of barn	26	34	..	¾ mile.
Cupola on center of large barn	66	29	..	1 mile.
Left chimney of large house	68	35	..	1 mile.
Near peak of house	77	38	..	2 miles.
Lightning rod on near end of house	87	10	..	1 mile.
Chimney on near end of house	103	31	..	100 yards.
Weather vane on barn cupola	127	20	..	75 yards.
Cupola on workshop	182	11	..	45 yards.
Chimney on near end of house	328	00	..	⅛ mile.

DOCTOR.

General locality.—Western shore of Fishing Creek on a prominent point about 1 mile southeast of Little Choptank River. (See Chart No. 37.)

Immediate locality.—Observed station is on sand and marsh about 1 foot above high water, 30 yards southwest of shore, 30 yards northwest of shore, and 25 yards west of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Eleanor" (N 81° 04′ W)	0	00	00	½ mile.
Tangent of McKeils Point	32	51	..	⅜ mile.
Middle dormer window of house	34	24	..	2 miles.
Near peak of barn	50	52	..	2 miles.
Left chimney of house	111	40	..	⅜ mile.
Right chimney of house	131	21	..	½ mile.
Near peak of barn	193	51	..	1 mile.
Left chimney of house	209	16	..	1 mile.
Right chimney of house	252	13	..	⅜ mile.
Weather vane on barn cupola	257	22	10	⅜ mile.
Cupola on Brooks workshop	263	41	..	⅜ mile.

ELEANOR.

General locality.—Southwestern shore of Fishing Creek about ⅝ mile south-southeast of McKeils Point, and 1 mile south of Town Point. (See Chart No. 37.)

Immediate locality.—Observed station is on sandy land at edge of woods about 10 yards southwest by south of shore, 15 yards west-northwest of shore, 28 yards west-southwest of extreme end of small marsh point, and 70 yards west-northwest of shore end of fence extending into water at a marsh point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of the ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Laney" (N 14° 32′ W)	0	00	00	¼ mile.
"Cherry Island Water Tank"	19	14	20	2⅛ miles.
Middle dormer window of house	34	35	..	1 mile.
Near peak of barn	37	51	..	1 mile.
Left chimney of house	48	56	..	1 mile.
Right chimney of house	85	35	..	⅞ mile.
Right end of barn roof	94	16	..	1 mile.
Nail in blaze in cedar tree (10 inches diameter)	201	41	00	17.95 meters.
Nail in blaze in cedar tree (10 inches diameter)	288	22	20	6.70 meters.
Nail in blaze in cedar tree (6 inches diameter)	315	02	00	8.40 meters.
Near peak of house	355	30	..	¼ mile.

LANEY.

General locality.—Southeastern shore of Little Choptank River on southwestern side of entrance to Fishing Creek on the northeast end of McKeils Point. (See Chart No. 37.)

Immediate locality.—Observed station is on a marsh point 35 yards southeast of shore, 50 yards northwest of shore, and 35 yards south-southwest of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Mac" (S 77° 08′ W)	0	00	00	¼ mile.
Chimney of house	34	50	..	2 miles.
Near peak of barn	54	23	..	1 mile.
Left chimney of house	83	48	..	1⅛ miles.
Center of roof of bungalow on Cherry Island	112	23	..	1⅝ miles.
"Cherry Island Water Tank"	113	38	30	1⅝ miles.
Near peak of barn	152	37	..	⅝ mile.
Right chimney of house	231	03	..	1¾ miles.
Cupola on barn	247	50	..	1⅛ miles.
Near chimney of house	273	13	..	¼ mile.

MAC.

General locality.—Southeastern shore of Little Choptank River on northeast side of Tobacco Stick Bay on McKeils Point. (See Chart No. 37.)

Immediate locality.—Observed station is on west side of McKeils Point about 3 feet above high water, 16 yards east of edge of bank, 20 yards southeast of edge of bank, 25 yards northeast of edge of bank, and 150 yards south-southwest of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Madison Southern M. E. Church Spire" (S 4° 37′ E)	0	00	00	.....	1⅞ miles.
Spire of M. P. Church at Madison	1	28	10	.....	1⅞ miles.
Tangent of Casons Point	89	42	..	.....	1⅛ miles.
Center chimney of house	103	58	..	.....	2¾ miles.
Near peak of house	113	03	..	.....	1½ miles.
Chimney on center of house	117	11	..	.....	1⅝ miles.
Near peak of large barn	140	40	..	.....	1⅛ miles.
Near peak of barn	147	24	..	.....	1⅛ miles.
Near peak of barn	151	55	..	.....	1 mile.
Left chimney of house	155	45	..	.....	1 mile.
Center of near side of roof of bungalow on Cherry Island	203	35	..	.....	1¾ miles.
Right chimney of house	242	57	..	.....	⅞ mile.
Near corner of house	302	24	..	.....	⅝ mile.

MADISON SOUTHERN M. E. CHURCH SPIRE.

General locality.—Southern shore of Little Choptank River in the town of Madison at the head of Tobacco Stick Bay. (See Chart No. 37.)

Immediate locality.—Observed station is on structure known as Southern M. E. Church, which is the tallest of three spires in the town of Madison.

Marks.—Observed station is spire on Southern M. E. Church.

References.—None necessary.

TOBACCO STICK.

General locality.—Southern shore of Little Choptank River on the northern end of point between Woolford Creek and Tobacco Stick Bay. (See Chart No. 37.)

Immediate locality.—Observed station is about in the center of a shell pile near end of point about 1 foot above high water, 13 yards southeast of shore, 14 yards south of shore, and 30 yards southwest of shore. Cement monument marking reference station is 21.35 meters S 29° 34′ E of observed station and about in range with Madison Southern M. E. Church Spire. Four-inch tile pipe marking old reference station is 2.84 meters N 76° 30′ E of observed station.

Marks.—Observed station is nail in 6-inch cedar stub with top flush with surface of ground. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Old reference station is 4-inch tile pipe set in cement.

References.—

	°	′	″		
"Madison Southern M. E. Church Spire" (S. 29° 53′ E)	0	00	00	.....	1¾ miles.
NEW REFERENCE STATION (CEMENT MONUMENT)	0	18	10	.....	21.35 meters.
Right end of roof of cannery	8	49	..	.....	1 mile.
Tangent of James Point	122	14	..	.....	5½ miles.
Chimney on left end of house	165	56	..	.....	1⅜ miles.
Chimney on left end of house	189	40	..	.....	3 miles.
Near peak of barn	211	16	..	.....	1⅝ miles.
"Cherry Island Water Tank"	234	58	50	.....	2¾ miles.
Tangent of McKeils Point	240	46	..	.....	1 mile.
OLD REFERENCE STATION (TILE PIPE)	286	22	50	.....	2.84 meters.
Near peak of old barn	344	51	..	.....	2 miles.

WOOL.

General locality.—Southeastern shore of Little Choptank River on Susquehanna Point ¼ mile west of entrance to Woolford Creek. (See Chart No. 37.)

Immediate locality.—Observed station is on sand and marsh land about 1 foot above high water, 10 yards south of shore, 17 yards southwest of shore, and 22 yards east of shore. Cement monument marking reference station is 24.03 meters S 18° 12′ E of observed station. Four-inch tile pipe marking old reference station is 27.12 meters S 58° 31′ W of observed station.

Marks.—Observed station is nail in center of 4-inch tile pipe set in cement with top flush with surface of ground. Reference station is center of point of triangle on standard cement monument projecting 4 inches above surface of ground. Old reference station is nail in center of 4-inch tile pipe sent in cement projecting about 3 inches above surface of ground.

References.—	°	′	″	
"Veith" (S 55° 49′ W)	0	00	00	2⅜ miles.
OLD REFERENCE STATION (TILE PIPE)	2	41	30	27.12 meters.
Near peak of large house on Hooper Point	3	25	..	2½ miles.
Near peak of house	26	27	..	4⅜ miles.
Tangent of northeast end of James Island	39	27	..	4¾ miles.
Right chimney of house	70	08	..	2 miles.
Left chimney of 1½-story house	106	10	..	1¼ miles.
Near peak of barn	136	18	..	2⅛ miles.
Left chimney of house	147	47	..	2 miles.
"Cherry Island Water Tank"	159	33	00	3¼ miles.
Right chimney of house	285	27	..	½ mile.
NEW REFERENCE STATION (CEMENT MONUMENT)	285	58	40	24.03 meters.

POV.

General locality.—Southern shore of Little Choptank River on extreme end of point about ¼ mile north of entrance to Parsons Creek about 2 miles south-southeast of Ragged Island, and 1¼ miles east of Hooper Point. (See Charts Nos. 37 and 38.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 4 yards south of shore, 4 yards southeast of shore, and 8 yards southwest of shore. Tile pipe marking old reference station is 64.66 meters S 65° 17′ E of observed station. Cement monument marking new reference station is 31.15 meters S 23° 40′ E of observed station.

Marks.—Observed station is center of 4-inch tile pipe projecting 12 inches above surface of ground. Old reference station is nail in center of 4-inch tile pipe set in cement. New reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″	
"Hudson" (N 19° 04′ E)	0	00	00	2⅜ miles.
Chimney on near peak of house	60	38	..	⅜ mile.
Chimney on right end of same house	61	49	..	⅜ mile.
Right chimney of house	95	10	..	¼ mile.
OLD REFERENCE STATION (TILE PIPE)	95	39	20	64.66 meters.
Near peak of barn	100	50	..	¼ mile.
NEW REFERENCE STATION (MONUMENT)	137	15	40	31.15 meters.
Near peak of large house	246	47	..	1½ miles.
Near peak of house	258	48	..	4 miles.
Chimney of house	263	44	..	4 miles.
Chimney on left end of house	328	17	..	2¾ miles.
Left side of 1½-story house	352	08	..	2⅜ miles.

NOBLEE.

General locality.—Eastern side of Slaughter Creek about ½ mile northeast of Slaughter Creek Bridge, and ⅛ mile inshore. (See Chart No. 38.)

Immediate locality.—Observed station is in edge of cultivated field on south side of road leading from Madison to Taylor Island, about 250 yards east of shore, 3 yards south of wire fence between field and road, 85 yards west-southwest of farm boundary stone in fence corner near road, and 135 yards east-northeast of barn on same side of road as station.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Finish" (S 14° 52′ W)	0	00	00	⅝ mile.
Near peak of barn	7	23	..	⅛ mile.
Right chimney of house	13	22	..	⅛ mile.
Center of canning house ventilators	19	39	..	⅜ mile.
Center of draw of Slaughter Creek Bridge	33	58	..	½ mile.
Near peak of Taylor Island wharf house	36	18	..	½ mile.
Near peak of store at Taylor Island	42	16	..	⅜ mile.
Near peak of barn	44	41	..	135 yards.
Nail in blaze in cedar tree (4 inches diameter)	65	07	30	15.98 meters.
Near chimney of house	99	02	..	250 yards.
Spindle on barn cupola	116	56	..	250 yards
Near chimney of house	175	04	..	⅝ mile.
Near peak of house	201	47	..	1 mile.
Middle chimney of house	315	01	..	¼ mile.

FINISH.

General locality.—Eastern shore of Slaughter Creek about ⅜ mile southeast of Slaughter Creek Bridge. (See Chart No. 38.)

Immediate locality.—Observed station is in corner of cultivated field, about 50 yards east of shore, 12 yards east of wire fence between field and marsh, 14 yards north of wire fence between field and woods, and 17 yards northeast of fence corner.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Taylor" (S 87° 18′ W)	0	00	00	⅜ mile.
Taller stack of canning house at Taylor Island	21	10	..	½ mile.
Near peak of large dwelling at Taylor Island	29	09	..	½ mile.
Left chimney of house nearest Slaughter Creek Bridge	36	42	..	½ mile.
Near peak of Taylor Island wharf house	49	57	..	⅜ mile.
Center of draw of Slaughter Creek Bridge	51	00	..	⅜ mile.
Near peak of old canning house	82	10	..	⅜ mile.
Near peak of barn	105	31	..	⅝ mile.
Nail in blaze in pine tree (8 inches diameter)	225	56	10	20.18 meters.
Nail in blaze in pine tree (12 inches diameter)	246	19	10	16.15 meters.
Nail in blaze in pine tree (8 inches diameter)	294	38	50	19.55 meters.

TAYLOR.

General locality.—Western shore of Slaughter Creek about ¼ mile south of Slaughter Creek Bridge. (See Chart No. 38.)

Immediate locality.—Observed station is on hard land at edge of marsh about 1 foot above high water, 22 yards northwest of shore, 28 yards southwest of shore, and 29 yards west of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Harrington" (N 2° 37′ E)	0	00	00	¾ mile.
Left side of Taylor Island wharf house	8	46	..	¼ mile.
Spindle on cupola on barn	23	35	..	¾ mile.
Near peak of barn	30	50	..	¾ mile.
Near peak of old canning house	37	40	..	⅜ mile.
Left chimney of large house	38	34	..	½ mile.
Near peak of barn	50	14	..	⅝ mile.
Nail in blaze in pine tree (5 inches diameter)	180	39	30	10.27 meters.
Nail in blaze in pine tree (5 inches diameter)	252	27	30	5.83 meters.
Near peak of house	275	43	..	⅜ mile.
Taller stack of canning house at Taylor Island	311	10	..	⅜ mile.
Left chimney of house nearest Slaughter Creek Bridge	344	59	..	¼ mile.
Nail in blaze in pine tree (4 inches diameter)	302	46	40	4.35 meters.

HARRINGTON.

General locality.—Western shore of Slaughter Creek about ⅜ mile north of Slaughter Creek Bridge. (See Chart No. 38.)

Immediate locality.—Observed station is on a marsh point at south side of entrance to a creek about on level with high water, 20 yards southwest of shore, 26 yards northwest of shore, 27 yards west of extreme end of point, and 300 yards southeast of a house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Whitewash" (N 22° 53′ E)	0	00	00	⅞ mile.
Chimney on near end of house	24	52	..	¾ mile.
Spindle on cupola on barn	60	29	..	⅜ mile.
Near peak of barn	81	00	..	1 mile.
Near peak of barn	115	46	..	⅜ mile.
Near peak of old canning house	124	48	..	½ mile.
Center of draw of Slaughter Creek Bridge	149	55	..	⅜ mile.
Near gable of house nearest west end of Slaughter Creek Bridge	169	26	..	½ mile.
Taller stack of canning house at Taylor Island	181	26	..	½ mile.
Left chimney of house	282	29	20	300 yards.

TRAVERS 2.

General locality.—Eastern shore of Chesapeake Bay on western side of Taylor Island about 4 miles south of James Point. (See Chart No. 38.)

Immediate locality.—Observed station is about 4 feet above high water in a field which was once under cultivation but is now covered with water bushes, about 40 yards east of shore and 15 feet north of a wire fence which starts at the shore and runs east. A stone used as an old reference mark stands 9.41 meters N 26° 53′ E of observed station, and the cement monument marking new reference station is 9.52 meters N 77° 20′ W of observed station.

Marks.—Observed station is a granite post projecting above the ground with crosslines running approximately north to south and east to west. New reference station is center point of triangle on standard cement monument. Old reference station is a cross on a granite post projecting above the ground with one of the crosslines running in the direction of Cove Point Light.

References.—	°	′	″	
"Cove Point Light" (S 26° 15′ W)	0	00	00	6½ miles.
Governors Run Wharf	77	12	..	9¼ miles.
Tangent of woods at water's edge	123	40	..	½ mile.
Near peak of 2-story house	173	23	..	¼ mile.
OLD REFERENCE STONE (GRANITE POST)	180	38	20	9.41 meters.
Chimney of 1¼-story house	195	47	..	¼ mile.
NEW REFERENCE STATION (CEMENT MONUMENT)	256	24	50	9.52 meters.
Near corner of small cabin	271	32	..	¼ mile.
Near chimney of house among trees	300	54	..	½ mile.
Near peak of small house	304	54	..	¾ mile.

DUNNOCK.

General locality.—Eastern shore of Chesapeake Bay about 5¼ miles east of Cove Point Light, and 2⅞ miles north-northwest of north end of Barren Island. (See Chart No. 38.)

Immediate locality.—Observed station is on a marsh about 1 foot above high water, 70 yards from shore in line with Cedar Point Light, 108 yards from shore in line with Cove Point Light, and 250 yards from a clump of woods at shore known locally as "Cattle Island Woods." Cement monument marking reference station is 35.18 meters N 88° 14′ E of observed station and nearly in line with Cove Point Light.

Marks.—Observed station is center of 2-inch tile pipe projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 6 inches above surface of ground.

References.—	°	′	″	
"Cedar Point Light" (S 36° 47′ W)	0	00	00	7⅝ miles.
Roof of house	43	41	..	6 miles.
Flagstaff at Cove Point Light	51	21	..	5¼ miles.
"Cove Point Light"	51	33	40	5¼ miles.
"Point of Rocks"	67	13	10	7¼ miles.
Near peak of barn	168	39	..	½ mile.
Chimney of house	172	34	..	½ mile.
REFERENCE STATION	231	26	40	35.18 meters.
Peak of barn	241	08	..	1¼ miles.
Chimney of house	256	20	..	1¼ miles.

COVE POINT LIGHT.

General locality.—Western shore of Chesapeake Bay on Cove Point about 5 miles north of entrance to Patuxent River. (See Chart No. 38.)

Immediate locality.—Observed station is on tower known as "Cove Point Light," which is near a detached dwelling and a detached fog-signal house.

Marks.—Observed station is center point of lantern on Cove Point Light.

References.—

	°	′	″		
"Cedar Point Light" (S 7° 16′ E)	0	00	00	.....	6 miles.

POINT OF ROCKS.

General locality.—Western shore of Chesapeake Bay on Point of Rocks, about 2¾ miles northwest of Cove Point Light. (See Chart No. 38.)

Immediate locality.—Observed station is in dense woods on a bluff about 90 feet high, 5 yards west of edge at extreme point, 8 yards south of edge of bluff, and 5 yards northwest of edge of bluff, Cement monument marking reference station is 9.42 meters S 66° 44′ W of observed station.

Marks.—Observed station is nail in center of round stake 4 inches in diameter with top flush with surface of ground driven into a 6-inch tile pipe with top 6 inches below surface of ground. Subsurface mark was reported in 1898 as a 6-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—

	°	′	″		
"Cove Point Light" (S 43° 26′ E)	0	00	00	.....	2¾ miles.
Center nail in blaze of tree (13 inches diameter)	19	19	40	.....	5.64 meters.
Center nail in blaze of tree (13 inches diameter)	90	05	30	.....	5.62 meters.
REFERENCE STATION	110	09	30	.....	9.42 meters.
Nail in blaze in tree (9 inches diameter)	126	35	40	.....	4.16 meters.
Right tangent Governors Run Wharf	186	20	20	.....	7½ miles.
Tangent of main woods	249	57	..	.....	8½ miles.
Left peak of large house	297	45	20	.....	6 miles.
North peak of large house	312	17	30	.....	6¾ miles.

CEDAR POINT LIGHT.

General locality.—Western shore of Chesapeake Bay on Cedar Point at south side of entrance to Patuxent River, about 3¼ miles east-southeast of Drum Point Light and 6 miles south by east of Cove Point Light. (See Chart No. 39.)

Immediate locality.—Observed station is on a square tower on a square brick dwelling known as Cedar Point Lighthouse.

Marks.—Observed station is center point of lantern on Cedar Point Lighthouse.

References.—

	°	′	″		
"Cove Point Light" (N 7° 16′ W)	0	00	00	.....	6 miles.

HOOPER ISLAND LIGHT.

General locality.—Eastern side of Chesapeake Bay offshore about 3½ miles west of Hoopers Island, and 4 miles south of Barren Island. (See Chart No. 39.)

Immediate locality.—Observed station is on Hoopers Island Lighthouse.

Marks.—Observed station is center point of lantern on conical tower on cylindrical foundation, known as Hooper Island Lighthouse.

References.—

	°	′	″		
"Cedar Point Light" (N 65° 04′ W)	0	00	00	.....	7 miles.

SOUTH.

General locality.—Eastern side of Chesapeake Bay on western shore of Barren Island, about 4¾ miles north of Hooper Island Light and 6 miles east of Cedar Point Light. (See Chart No. 39.)

Immediate locality.—Observed station is on sandy marsh about 1 foot above high water and 4 yards east of rapidly washing shore. Cement monument marking reference station is 101.21 meters N 72° 40′ E of observed station.

Marks.—Observed station is nail in cedar stub about 8 inches in diameter and 4 feet long with top projecting about 20 inches above surface of ground. Reference station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. "South Secondary" is marked the same as the observed station except top was badly burned, only projecting 3 inches above surface of ground.

References.—

	°	′	″	
"Hooper Island Light" (S 8° 10′ E)	0	00	00	4¾ miles.
"Cedar Point Light"	80	50	20	6 miles.
Tangent to Hog Point	90	00	..	7¼ miles.
"Cove Point Light"	131	08	10	7¾ miles.
Tangent of shore north of station	170	00	..	1 mile.
REFERENCE STATION (CEMENT MONUMENT)	260	50	50	101.21 meters.
"SOUTH SECONDARY" (CEDAR STUB)	260	50	50	100.25 meters.
Left chimney of house	301	39	..	2⅜ miles.
Dead pine tree	346	57	..	90 yards.

NORTH.

General locality.—Eastern side of Chesapeake Bay on western shore of Barren Island about ⅜ mile south of north end of island and 7 miles east-southeast of Cove Point Light. (See Chart No. 39.)

Immediate locality.—Observed station is on hard land surrounded by water bushes and scrub pines about 2 feet above high water, and 50 yards east-southeast of point where three large pine trees stand near shore. Cement monument marking reference station is 48.71 meters N 72° 39′ E of observed station.

Marks.—Observed station is center one of four nails in cedar stub 8 inches in diameter and 4 feet in length with top projecting about 8 inches above surface of ground. Reference station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Station called "North Secondary" is marked the same as the observed station except the top of cedar post is about 18 inches above surface of ground.

References.—

	°	′	″	
"Cove Point Light" (N 64° 08′ W)	0	00	00	7 miles.
Near peak of house	54	47	..	2⅞ miles.
Nail in blaze in pine tree (6 inches diameter)	74	57	50	8.18 meters.
Nail in blaze in pine tree (8 inches diameter)	116	17	20	14.15 meters.
Nail in blaze in pine tree (5 inches diameter)	132	36	10	9.99 meters.
REFERENCE STATION (CEMENT MONUMENT)	136	47	00	48.71 meters.
NORTH SECONDARY (CEDAR STUB)	136	47	00	49.95 meters.
Nail in blaze in pine tree (5 inches diameter)	186	10	20	5.98 meters.
"Cedar Point Light"	306	08	30	6¼ miles.

MINT.

General locality.—Eastern shore of Tar Bay on Charity Point at north side of entrance to Fishing Creek, about ⅝ mile west of Fishing Creek bridge, and 1⅝ miles east of north end of Barren Island. (See Chart No. 39.)

Immediate locality.—Observed station is on shell bank about 4 feet above high water, 2 yards east of shore, 11 yards southwest of small wild cherry tree, 13 yards west-southwest of another small wild cherry tree, and just west of a dense growth of small trees and brush. Cement monument marking reference station is 21.85 meters N 52° 05′ E of observed station.

Marks.—Observed station is center of 4-inch tile pipe with top 7 inches below surface of ground. Subsurface mark is center of 4-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″	
"Hosier Memorial Church Spire" (S 21° 24′ E)	0	00	00	1⅛ miles.
"Mt. Zion M. E. Church Spire"	6	41	50	2¼ miles.
Chimney on middle of house	7	52	..	1½ miles.
"Hooper Island Light"	27	22	10	6¼ miles.
Near peak of house	58	05	..	1½ miles.
Chimney on outside of near end of 2-story house	64	06	..	1½ miles.
Chimney of shanty	72	50	..	1½ miles.
Tangent of north end of Barren Island	112	00	..	1½ miles.
Red Beacon	122	25	20	1½ miles.
Black Beacon	123	37	40	1½ miles.
"Cove Point Light"	130	29	40	8¼ miles.
Left tangent of Cattle Island woods	160	00	..	4 miles.
Nail in blaze in wild cherry tree (3 inches diameter)	233	20	00	10.34 meters.
REFERENCE STATION	253	28	50	21.85 meters.
Nail in blaze in wild cherry tree (5 inches diameter)	266	50	10	11. 86 meters.
Left chimney of large 2-story house	356	07	..	⅞ mile.

KEENES.

General locality.—Eastern shore of Honga River on Keenes Point, about 1¼ miles north-northeast of Fishing Creek Bridge and ¾ mile east of Cedar Point. (See Charts Nos. 39 and 40.)

Immediate locality.—Observed station is on marsh with dense growth of water bushes alongshore, about 1 foot above high water, 20 yards north of shore, 30 yards east of shore, and 35 yards south of cultivated land.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Kerwin" (S 79° 28′ E)	0	00	00	1½ miles.
Near peak of barn	159	38	..	1 mile.
Chimney on right end of house	161	04	..	1 mile.
Near peak of barn	196	20	..	2 miles.
Left tangent of trees along edge of cultivated land	211	00	..	65 yards.
Center one of group of three large pine trees	282	14	..	½ mile.
Right tangent of trees along edge of cultivated land	344	00	..	60 yards.

GUNNERS.

General locality.—Western shore of Honga River on Gunners Island on point at northern side of entrance to Gunners Cove, about ⅝ mile north of Long Point and 1⅛ miles southeast of Fishing Creek Bridge. (See Charts Nos. 39 and 40.)

Immediate locality.—Observed station is on a marsh with water bushes alongshore, about 1 foot above high water, 23 yards southwest of shore, 28 yards south of shore, 70 yards northwest of extreme end of point, and 170 yards northeast of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting about 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Kerwin" (N 38° 20′ E)	0	00	00	.....	2 miles.
Near peak of barn	52	33	..	.....	2⅛ miles.
Chimney on left end of house	78	15	..	.....	2 miles.
Right tangent to Wroten Island	112	37	..	.....	1⅝ miles.
Center of draw of bridge	134	43	..	.....	2⅜ miles.
"Mount Zion M. E. Church Spire"	170	44	30	.....	1¾ miles.
Left edge of house	239	35	..	.....	1⅛ miles.
Near peak of house	247	12	..	.....	1⅛ miles.
Center of draw of Fishing Creek Bridge	274	40	..	.....	1⅛ miles.
Right edge of old windmill	275	13	..	.....	1¼ miles.
Near peak of small house	279	50	..	.....	1¼ miles.

HOSIER MEMORIAL CHURCH SPIRE.

General locality.—Eastern shore of Tar Bay on Upper Hooper Island, about 5⅜ miles north by east of Hooper Island Light and 1 mile south of Fishing Creek. (See Charts Nos. 39 and 40.)

Immediate locality.—Observed station is on church known as Hosier Memorial Church.

Marks.—Observed station is center of spire.

References.—None necessary.

MOUNT ZION M. E. CHURCH SPIRE.

General locality.—Eastern shore of Tar Bay on Upper Hooper Island, about 1¾ miles northwest of Ferry Point and 2 miles south of entrance to Fishing Creek. (See Charts Nos. 39 and 40.)

Immediate locality.—Observed station is on a church known as Mount Zion M. E. Church.

Marks.—Observed station is center of spire on Mount Zion M. E. Church.

References.—None necessary.

BRIDGE.

General locality—Eastern shore of Chesapeake Bay and western shore of Honga River on Ferry Point at southern end of Upper Hooper Island, about 3¾ miles northeast by north of Hooper Island Light. (See Charts Nos. 39 and 40.)

Immediate locality.—Observed station is on a marsh point, about 1 foot above high water, 50 yards west of river shore, 55 yards south of river shore, 85 yards east of shore of bay, 75 yards northeast by north of second telephone pole north of bridge, and 80 yards north-northeast of bridge tender's cabin.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Mount Zion M. E. Church Spire" (N 44° 47′ W)	0	00	00	.....	1⅝ miles.
Near peak of oyster house	13	28	..	.....	1½ miles.
"Hosier Memorial Church Spire"	14	59	00	.....	2⅝ miles.
Left tangent of Wroten Island	58	12	..	.....	2 miles.
Near peak of barn	68	33	..	.....	1½ miles.
Center of roof of old windmill	122	20	..	.....	3¾ miles.
Outside chimney of right end of house	164	03	..	.....	1 mile.
Chimney in center of large house	171	15	..	.....	1¼ miles.
Chimney in center of house	185	25	..	.....	2 miles.
"Hooper Island Light"	262	51	50	.....	3¾ miles.

APPLEGARTH.

General locality.—Eastern shore of Chesapeake Bay on south end of Hooper Island, about 3½ miles east of Hooper Strait Light. (See Chart No. 40.)

Immediate locality.—Observed station is on marsh, about 1 foot above high water and 150 yards north of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Hooper Strait Light" (S 83° 45′ E)	0	00	00	3½ miles.
"Point no Point Light"	132	34	10	10¼ miles.
"Hooper Island Light"	189	11	30	6 miles.
Left one of row of large pine trees	192	20	..	⅛ mile.
"Hoopersville Methodist Church Cupola"	214	53	30	2⅞ miles.
Chimney of house	230	05	..	¾ mile.
Chimney in middle of house	246	47	..	¾ mile.
"Hopkins Memorial Church Cupola"	257	45	00	¾ mile.
Chimney in center of house	259	52	..	¾ mile.
Chimney of abandoned house	271	25	..	½ mile.
Near peak of house showing over roof	278	06	..	½ mile.
Right tangent of clump of pine trees	295	33	..	300 yards.

HOPKINS MEMORIAL CHURCH CUPOLA.

General locality.—Eastern shore of Chesapeake Bay in small village of Applegarth on Lower Hooper Island, about 2⅜ miles southeast by east of Hooper Island Wharf, and 3¾ miles east-southeast of Hooper Strait Light. (See Chart No. 40.)

Immediate locality.—Observed station is on church known as Hopkins Memorial Church.

Marks.—Observed station is center of bell cupola.

References.—None necessary.

HOOPERSVILLE METHODIST CHURCH CUPOLA.

General locality.—Eastern shore of Chesapeake Bay in town of Hoopersville on Middle Hooper Island, about ¾ mile southwest of Hooper Island Wharf. (See Chart No. 40.)

Immediate locality.—Observed station is on church known as Hoopersville Methodist Church.

Marks.—Observed station is center of bell cupola.

References.—None necessary.

BENTLEY.

General locality.—Southwestern shore of Honga River on the north side of Bentley Point about 2 miles south of Wroten Island, and 1¼ miles east of drawbridge at Ferry Point. (See Chart No. 40.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, 30 yards southwest of shore, 45 yards east of shore, and 50 yards southeast by south of a small marsh point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Hoopersville M. E. Church Cupola" (S 3° 29′ W)	0	00	00	2¼ miles.
Near peak of house	9	38	..	⅞ mile.
Center of draw of Hooper Island bridge	97	12	..	1½ miles.
Peak of draw-tender's cabin	99	26	..	1⅝ miles.
"Mount Zion M. E. Church Spire"	116	08	50	3⅛ miles.
Near peak of oyster house	120	37	..	4¼ miles.
Near peak of large house	125	37	..	3¼ miles.
Left tangent to Wroten Island	142	00	..	1⅞ miles.
Right edge of barn	151	40	..	1¾ miles.
Left chimney of house	171	32	..	2⅛ miles.
Center of old windmill	236	48	..	2½ miles.
"Hopkins Memorial Church Cupola"	326	59	40	4 miles.
Stack of oyster house at Hooper Island Wharf	347	51	..	2½ miles.

KERWIN.

General locality.—Northeastern shore of Honga River about 2¼ miles east-northeast of Fishing Creek Bridge, and 1½ miles east of Keenes Point. (See Chart No. 40.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, 60 yards east of shore, 60 yards northwest of shore, and 55 yards north-northeast of end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Mount Zion M. E. Church Spire" (S 34° 04′ W)	0	00	00	.....	3⅝ miles.
"Hosier Memorial Church Spire"	14	29	00	.....	3 miles.
Chimney on outside of end of house	29	01	..	.....	3 miles.
Right chimney of house	31	37	..	.....	2¼ miles.
Center of draw of Fishing Creek Bridge	35	32	..	.....	2¼ miles.
Stack of Fishing-Creek Crab House	36	26	..	.....	2¼ miles.
Center of old windmill on Fishing Creek	37	02	..	.....	2¼ miles.
Tangent of woods	70	14	..	.....	250 yards.
Stove pipe on left edge of house	163	11	..	.....	1 mile.
Near chimney of house	230	31	..	.....	⅛ mile.
Center of draw of Hooper Island Bridge	337	43	..	.....	4⅜ miles.

WROTEN.

General locality.—Northeastern shore of Honga River on southern shore of Wroten Island about 2½ miles north-northwest of Bentley Point. (See Chart No. 40.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, 40 yards west of shore, 55 yards northwest of shore, and 100 yards north of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried wtih top 2 inches below base of monument.

References.—

	°	′	″		
"Charles" (S 65° 22′ E)	0	00	00	.....	1¼ miles.
Chimney on right end of house	78	32	..	.....	2⅜ miles.
Center of draw of Hooper Island Bridge	98	49	..	.....	2 miles.
"Mount Zion M. E. Church Spire"	144	29	50	.....	2¼ miles.
Right edge of house in trees	161	54	..	.....	⅝ mile.
Near peak of barn	174	13	..	.....	⅜ mile.
Near peak of house	270	56	..	.....	¾ mile.
Chimney on left end of house	321	04	..	.....	1¼ miles.

CHARLES.

General locality.—Northeastern shore of Honga River about 1¾ miles north of Bentley Point, and 2½ miles east-northeast of drawbridge at Ferry Point. (See Chart No. 40.)

Immediate locality.—Observed station is on firm land about 1 foot above high water, 20 yards east-southeast of shore, 30 yards northwest of shore, 50 yards north-northeast of shore, and 40 yards southwest by south of large tree near bend in a rail fence.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Lakes" (S 70° 54′ E)	0	00	00	.....	1 mile.
Left edge of barn roof	33	11	..	.....	2¼ miles.
"Hopkins Memorial Church Cupola"	56	20	10	.....	5⅜ miles.
Center of draw of Hooper Island Bridge	133	10	..	.....	2½ miles.
Left edge of drawtender's cabin	134	47	..	.....	2½ miles.
Chimney on right end of house	154	55	..	.....	3 miles.
"Mount Zion M. E. Church Spire"	162	11	20	.....	3⅜ miles.
Left peak of oyster house	162	18	..	.....	3¼ miles.
Tangent of south end of Wroten Island	162	52	..	.....	1⅝ miles.
Chimney on left end of house	166	07	..	.....	1¼ miles.
Chimney on end of house	170	05	..	.....	1¾ miles.
Nail in blaze in tree (6 inches diameter)	322	22	10	.....	19.93 meters.
Nail in blaze in tree (6 inches diameter)	248	59	50	.....	12.63 meters.

LAKES.

General locality.—Northeastern shore of Honga River on a point at northern side of entrance to Lakes Cove about 1½ miles north-northeast of Bentley Point. (See Chart No. 40.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, 26 yards north of shore, 65 yards northeast of shore, and 70 yards east of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Asquith" (S 6° 08′ W)	0	00	00	.....	1¾ miles.
"Mount Zion M. E. Church Spire"	89	20	50	.....	4⅜ miles.
Chimney on outside of house	182	40	..	.....	¾ mile.
Between two dormer windows of house	242	00	..	.....	1¾ miles.
Left chimney of house	273	34	..	.....	⅞ mile.

ASQUITH.

General locality.—Eastern shore of Honga River on Asquith Island, about 2½ miles northeast of Hoopersville, and ⅞ mile north of Windmill Point. (See Chart No. 40.)

Immediate locality.—Observed station is on strip of sandy marsh between a pond and river about 2 feet above high water, 3 yards west of shore of pond, 11 yards east of shore of river, and 50 yards south of end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe with top about 2 inches below base of monument.

References.—	°	′	″		
"Hoopersville Methodist Church cupola" (S 44° 57′ W)	0	00	00	.....	2¼ miles.
Near peak of house	4	12	..	.....	2 miles.
Near peak of barn	9	06	..	.....	2¼ miles.
Near peak of small barn	38	24	..	.....	1¾ miles.
Nail in blaze in pine tree (15 inches diameter)	87	59	40	.....	6.04 meters.
Left side of old windmill	154	51	..	.....	2 miles.
Near peak of house	157	50	..	.....	2⅛ miles.
Nail in blaze in pine tree (12 inches diameter)	320	06	10	.....	17.08 meters.
Nail in blaze in pine tree (15 inches diameter)	336	50	00	.....	7.48 meters.
Tangent to outside end of Hooper Island wharf	352	20	..	.....	1¾ miles.

WINDMILL 2.

General locality.—Eastern shore of Honga River on Windmill Point, about 1⅞ miles east-northeast of Hoopersville. (See Chart No. 40.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, 25 yards north-northeast of end of point, 35 yards east of shore, and 30 yards northwest of shore. Cement monument marking reference station is 19.78 meters N 36° 41′ E of observed station.

Marks.—Observed station is nail in stub in 4-inch tile pipe with top of pipe 4 inches below surface of ground. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″	
"Hoopersville Methodist Church Cupola" (S 64° 22′ W)	0	00	00	1⅞ miles.
Two house chimneys about in line	1	24	..	1⅝ miles.
Center of store doorway in Hoopersville	3	54	..	1⅝ miles.
Near peak of house	53	59	..	2 miles.
"Mount Zion M. E. Church spire"	61	25	40	5¼ miles.
"Hosier Memorial Church Spire"	68	09	30	6 miles.
Tangent to Bentley Point	91	46	..	1½ miles.
Near gable of house	149	52	..	1½ miles.
REFERENCE STATION	152	19	10	19.75 meters.
Near peak of cabin	183	42	..	1½ miles.
"Toddville M. E. Church Spire"	184	01	20	4¾ miles.
Center gable of house	185	00	..	3½ miles.
St. Thomas Church Spire"	211	06	20	4⅛ miles.
Left tangent Hooper Island Wharf	356	25	..	1¼ miles.

PAUL (HONGA RIVER).

General locality.—Eastern shore of Honga River on Paul Point at northwestern side of entrance to Fox Creek, about 1½ miles east-northeast of Windmill Point, and ¾ mile southwest of Wingate Point. (See Chart No. 40.)

Immediate locality.—Observed station is on marsh point about 1 foot above high water, 7 yards west of shore, 13 yards northwest of shore, 25 yards north-northeast of extreme end of point, 50 yards north-northwest of a small marsh island, and 55 yards east-northeast of a cabin.

Marks.—Observed station is center of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"St. Thomas Church Spire" (S 71° 18′ E)	0	00	00	3 miles
Left side of small cabin on Crab Point	32	05	..	1¾ miles.
"Hopkins Memorial Church Cupola"	91	26	30	2⅝ miles.
Between two stacks on oyster house on Hooper Island Wharf	136	08	..	3 miles.
"Hoopersville Methodist Church Cupola"	137	23	20	3¾ miles.
Near corner of cabin	150	05	..	53 yards.
Near peak of house	195	41	..	1 mile.
Peak of barn	241	26	..	2 miles.
Center one of three chimneys on large house	273	57	..	1¼ miles.
Chimney of Wingate Wharf waiting room	304	38	..	⅝ mile.
"Toddville M. E. Church Spire"	319	46	00	3¼ miles.
Flagstaff on hall at Bishop Head	359	29	..	2⅞ miles.

TODDVILLE M. E. CHURCH SPIRE.

General locality.—On neck of land between Fishing Bay and Honga River in town of Toddville, about 2¼ miles east of Wingate wharf. (See Chart No. 40.)

Immediate locality.—Observed station is on church known as Toddville M. E. Church.

Marks.—Observed station is center of spire.

References.—None necessary.

DUCK (HONGA RIVER).

General locality.—Eastern shore of Fox Creek on Piney Point, at north side of entrance to Duck Point Cove, about ¾ mile southeast of Wingate Point. (See Chart No. 40.)

Immediate locality.—Observed station is on a marsh point 1 foot above high water, 50 yards south of shore, 50 yards north of shore, and 65 yards east-northeast of end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"St. Thomas Church Spire" (S 63° 20′ E)	0	00	00	.....	1¾ miles.
Near peak of small cabin	75	13	..	.....	1 mile.
Left tangent of Hooper Island	88	10	..	.....	3 miles.
"Hopkins Memorial Church Cupola"	104	51	00	.....	3⅛ miles.
"Hoopersville Methodist Church Cupola"	137	20	50	.....	4⅜ miles.
Left chimney of house	158	40	..	.....	2 miles.
Left edge of cabin on Paul Point	159	29	..	.....	1⅛ miles.
Tangent of outside end of Wingate Wharf	185	52	..	.....	⅞ mile.
Chimney on waiting room Wingate Wharf	186	26	..	.....	⅞ mile.
Front peak of store building	214	04	..	.....	¾ mile.
Peak of oyster house	222	46	..	.....	¾ mile.
Near gable of house	245	39	..	.....	1 mile.
Outside chimney of house	318	18	..	.....	1⅛ miles.

ST. THOMAS CHURCH SPIRE.

General locality.—Eastern shore of Honga River in town of Bishop Head, about 2¼ miles southeast by east of Wingate Wharf, and 2¾ miles north of Hooper Strait Light. (See Chart No. 40.)

Immediate locality.—Observed station is on church known as St. Thomas Church.

Marks.—Observed station is center of spire.

References.—None necessary.

NORMAN.

General locality.—Eastern shore of Honga River, about 2½ miles north-northwest of Hooper Strait Light, and ¼ mile south of Crab Point. (See Chart No. 40.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, 60 yards east of shore, 70 yards northeast of shore, and 80 yards southeast of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Hooper Strait Light" (S 35° 11′ E)	0	00	00	.....	2¼ miles.
Right tangent of woods	12	00	..	.....	400 yards.
Left edge of small house	28	29	..	.....	5¼ miles.
Tangent of lower end of Hooper Island	76	12	..	.....	2 miles.
"Hopkins Memorial Church Cupola"	99	57	20	.....	2¼ miles.
"Hoopersville M. E. Church Cupola"	127	47	30	.....	4⅛ miles.
Between two stacks on oyster house at Hoopers Island Wharf	130	27	..	.....	3⅞ miles.
Left tangent of woods	184	14	..	.....	400 yards.
Front peak of store building	205	33	..	.....	2⅛ miles.
Near peak of house	216	57	..	.....	3 miles.
Left one of two chimneys close together	248	22	..	.....	2 miles.
Near peak of canning house	250	36	..	.....	2 miles.
Flagstaff on hall at Bishop Head	284	30	..	.....	1¾ miles.
"St. Thomas Church Spire"	285	07	50	.....	1¾ miles.

HOOPER STRAIT LIGHT.

General locality.—Northern side of Hooper Strait at eastern side of entrance to Honga River about 2½ miles west-northwest of southern end of Bishop Head, and 3 miles east-southeast of Lower Hooper Island. (See Chart No. 40.)

Immediate locality.—Observed station is on hexagonal, screw-pile structure known as Hooper Strait Light.

Marks.—Observed station is center of lantern on Hooper Strait Light.

References.—

	°	′	″		
"Head" (S 82° 30′ E)	0	00	00	.....	2½ miles.

CRAB.

General locality.—Western shore of upper Tangier Sound on eastern side of Bloodsworth Island, about 1 mile southeast of entrance to Piney Island Cove, 1 mile northeast of entrance to Great Cove, and 2⅝ miles southwest of Sharkfin Shoal Light. (See Chart No. 41.)

Immediate locality.—Observed station is about 1 foot above high water, 15 yards southwest of shore, 35 yards west of shore, and 150 yards south-southwest of a crab house.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Sharkfin Shoal Light" (N 45° 25′ E)	0	00	00	.....	2⅝ miles.
Left end of large house near Stump Point	6	11	..	.....	7⅞ miles.
End of roof of house on bluff	31	36	..	.....	6¼ miles.
End of Deal Island Wharf	53	03	..	.....	3¾ miles.
Large house	72	35	..	.....	4¼ miles.
Aspen tree near "Joshua"	88	06	..	.....	5⅛ miles.
Tall pine tree	165	00	40	.....	1½ miles.

HEAD.

General locality.—Upper end of Tangier Sound, on eastern side of southern part of peninsula known as Bishop Head, situated between Hooper Strait and Fishing Bay. (See Chart No. 41.)

Immediate locality.—Observed station is on marsh behind water bushes which skirt shore, about 15 yards southwest of shore, and ½ mile north of extreme south end of Bishop Head. Cement monument marking reference station is 13.41 meters N 20° 37′ E of observed station.

Marks.—Observed station is a nail in a pine stub flush with ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Sharkfin Shoal Light" (S 60° 41′ E)	0	00	00	.....	2¾ miles.
Crab-house flagstaff	50	30	..	.....	3¼ miles.
Large pine tree	97	42	..	.....	2 miles.
REFERENCE STATION	139	55	40	.....	13.41 meters.
Near gable of 2½-story house	140	24	..	.....	¼ mile.
Chimney of house	156	44	..	.....	⅛ mile.
Chimney of house	208	28	..	.....	1½ miles.
Chimney of end of house	238	53	..	.....	3 miles.
Right side of Nanticoke Point woods	326	56	..	.....	7½ miles.

CROCH.

General locality.—Western shore of Fishing Bay about 4½ miles northwest of Sharkfin Shoal Light, and ¼ mile north-northeast of entrance to Tedious Creek. (See Chart No. 41.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, 45 yards southwest of shore, 50 yards west of shore, 60 yards northwest of shore, and 150 yards north of a small marsh island covered with water bushes.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Sharkfin Shoal Light" (S 39° 09′ E)	0	00	00	4½ miles.
Right chimney of house	36	59	..	2⅜ miles.
Right peak of house	59	35	..	1½ miles.
Chimney in middle of large building	79	02	..	1⅝ miles.
Chimney in middle of house	92	51	..	1½ miles.
Near peak of house	120	11	..	⅝ mile.
Near peak of house	142	41	..	⅝ mile.
Chimney outside of right end of house	197	39	..	1⅜ miles.
Between two chimneys of house nearly in line	204	40	..	1¼ miles.
Near peak of house	219	18	..	1 mile.
Chimney outside of right end of house	241	56	..	4 miles.

ROAST.

General locality.—Western shore of Fishing Bay on Roasting Ear Point, about 5¾ miles north-northwest of Sharkfin Shoal Light, 4¼ miles north of Bishop Head, and ¾ mile northeast of entrance to Goose Creek. (See Chart No. 41.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, 40 yards northwest of shore, 40 yards west of shore, and 70 yards south by west of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Sharkfin Shoal Light" (S 21° 41′ E)	0	00	00	5¾ miles.
Left chimney of house on Bishop Head	30	05	..	4⅛ miles.
Near peak of house	45	23	..	3 miles.
Chimney on left end of house	69	15	..	2 miles.
Smokepipe on near house	73	36	..	1⅜ miles.
Tallest one of five pine trees	95	24	..	1 mile.
Stack of canning house on Farm Creek	151	29	..	2½ miles.
Stack of canning house on Elliott Island	219	33	..	2 miles.
Chimney outside of near end of house	229	35	..	1⅞ miles.
Chimney in middle of house	233	01	..	2 miles.
Between two gables of large house	236	00	..	2 miles.
Windmill	240	04	..	2 miles.

FARM.

General locality.—Western shore of Fishing Bay on point at south side of entrance to Cedar Creek, about 1⅝ miles west of Fishing Point, and ¾ mile northeast of entrance to Farm Creek. (See Chart No. 41.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, 20 yards south of shore, 60 yards northwest of shore, 45 yards west-southwest of extreme end of point, 10 yards east-northeast of a small pond in marsh, and 300 yards south by east of a small oyster watch house on opposite side of Cedar Creek.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Toddville M. E. Church Spire" (S 45° 58′ W)	0	00	00	1¾ miles.
Chimney in middle of house	4	03	..	2 miles.
Stack of canning house on Farm Creek	9	31	..	1½ miles.
Near corner of small shanty	51	13	..	½ mile.
Smoke pipe on small shanty	84	12	..	¾ mile.
Left chimney of house	204	34	..	4⅞ miles.
Stack of canning house at Elliott Island	239	29	..	1¾ miles.
Near peak of house	322	22	..	2¼ miles.

THORO.

General locality.—Western shore of Fishing Bay about ¾ mile northeast of entrance to Thoroughfare Creek, and 1½ miles north of Fishing Point on the western end of Elliott Island. (See Chart No. 41.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, 40 yards northwest of shore, 50 yards north-northeast of shore, 55 yards northeast by north of shore, and 130 yards east-northeast of entrance to a small creek.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Toddville M. E. Church Spire" (S 48° 30′ W)	0	00	00	3½ miles.
Chimney in center of house	2	08	..	3 miles.
Lone poplar tree	262	14	..	2 miles.
Chimney on right end of house	271	02	..	2 miles.
Lightning rod on near peak of large house	274	35	..	1¾ miles.
Spire of church on Elliott Island	280	52	50	1¾ miles.
Center one of three chimneys on house	281	54	..	1¾ miles.
Stack of canning house on Elliott Island	306	00	50	1½ miles.

HIGH.

General locality.—Southeastern shore of Upper Fishing Bay on Elliott Island, about ⅜ mile east-northeast of extreme end of Fishing Point. (See Chart No. 41.)

Immediate locality.—Observed station is on high sandy land in a grove of pine trees, about 30 yards east-southeast of edge of bank, and 35 yards west-northwest of near corner of west one of five sheds in a row.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Farm" (N 84° 52′ W)	0	00	00	1⅞ miles.
Nail in blaze in pine tree (18 inches diameter)	174	17	10	17.83 meters.
Nail in blaze in pine tree (12 inches diameter)	219	59	10	5.58 meters.
Near corner of shed with metal roof (west one of five in a row)	235	38	..	33 yards.
Left chimney of house	257	34	..	100 yards.
Right chimney of house	274	56	..	⅜ mile.
Nail in blaze in pine tree (15 inches diameter)	312	40	20	10.28 meters.

ELLIOTT.

General locality.—Eastern shore of Fishing Bay on Fishing Point at the extreme western end of Elliott Island about 5½ miles north-northwest of Clay Island, and opposite entrance to Farm Creek. (See Chart No. 41.)

Immediate locality.—Observed station is on sandy marsh about 1 foot above high water, 16 yards south of shore, 20 yards north of shore, 30 yards east-northeast of extreme end of sandy point, 185 yards west-southwest of a sand ridge near trees and brush, and 290 yards northwest of a canning house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Toddville M. E. Church Spire" (S 73° 11′ W)	0	00	00	.....	2⅞ miles.
Chimney on right end of house	5	55	..	.....	2 miles.
Tangent of high bluff	167	31	..	.....	¼ mile.
Left edge of old building	250	24	..	.....	
Stack of canning house at Elliott Island	256	29	42	.....	290 yards.
Small house in trees	326	19	..	.....	2⅝ miles.

EAR.

General locality.—Eastern shore of Fishing Bay, about 6⅛ miles north of Sharkfin Shoal Light, 1¾ miles east-northeast of Roasting Ear Point, and 1¾ miles southeast of Fishing Point, on Elliott Island. (See Chart No. 41.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, 20 yards northeast of shore, 30 yards north by west of shore, and 40 yards east by south of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Sharkfin Shoal Light" (S 5° 49′ E)	0	00	00	.....	6⅛ miles.
Chimney on left end of house	31	23	..	.....	5⅞ miles.
Chimney in middle of large building	46	21	..	.....	5 miles.
Near peak of barn	70	22	..	.....	2½ miles.
"Toddville M. E. Church Spire"	102	12	30	.....	3¾ miles.
Stack of canning house at Elliott Island	145	59	..	.....	1½ miles.
Chimney on right end of house	151	22	..	.....	1¼ miles.
Near peak of house	164	03	..	.....	1¼ miles.
Left peak of barn	197	45	..	.....	1¾ miles.
"Nanticoke Church"	291	53	50	.....	5⅛ miles.

FISH.

General locality.—Eastern shore of Fishing Bay, about 4⅜ miles north of Sharkfin Shoal Light, 3¼ miles south-southeast of Elliott Island, and 2¼ miles north-northeast of point of Clay Island. (See Chart No. 41.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, 50 yards northeast of shore, 60 yards east of shore, and 85 yards north-northeast of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Sharkfin Shoal Light" (S 1° 56′ W)	0	00	00	.....	4⅜ miles.
Center gable of house at Bishop Head	41	59	..	.....	4¼ miles.
Near peak of house	63	18	..	.....	4¼ miles.
Chimney in middle of house	65	24	..	.....	3⅞ miles.
Left chimney of house	90	01	..	.....	3 miles.
Near peak of house	99	21	..	.....	3 miles.
Stack of canning house on Farm Creek	120	05	..	.....	5 miles.
Stack of canning house on Elliott Island	146	17	..	.....	3⅜ miles.
"Nanticoke Church"	263	46	40	.....	4¼ miles.

FROG.

General locality.—Western side of entrance to Nanticoke River, on Frog Point, at southeastern end of Clay Island. (See Chart No. 41.)

Immediate locality.—Observed station is on marsh point about 20 yards west of shore, 25 yards east of shore, 25 yards from extreme end of point, and in front of water bushes. Cement monument marking reference station is 13.10 meters N 3° 11′ E of observed station.

Marks.—Observed station is nail in stub flush with ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Sharkfin Shoal Light" (S 41° 25′ W)	0	00	00	3⅛ miles.
Left tangent of Clay Island	35	17	..	1¼ miles.
REFERENCE STATION	141	45	50	13.10 meters.
Right tangent of Sandy Point	177	41	..	¾ mile.
Chimney of house	179	12	..	2½ miles.
Chimney near end of large house	183	02	..	2½ miles.
Stack of canning house	184	36	..	2½ miles.
Land end of Nanticoke Wharf	184	36	..	2½ miles.
End of Nanticoke Wharf house	186	00	..	2¼ miles.
Chimney on ell end of main part of large house	211	27	..	2¼ miles.
Right tangent of Nanticoke Point woods	238	44	..	2¾ miles.
Large square chimney of house (Dames Quarter)	264	17	..	4 miles.
Rock Creek poplar tree	284	17	..	3½ miles.
Flagstaff on Deal Island Wharf	322	09	..	4¾ miles.

COW.

General locality.—Western shore of Nanticoke River, on Mink Point, about ⅜ mile east of entrance to Cow Creek and 1⅜ miles west of Roaring Point. (See Chart No. 41.)

Immediate locality.—Observed station is on very soft marsh at edge of water bushes about 5 yards west of shore, 15 yards northeast of shore, and 15 yards northwest of extreme end of point. Cement monument marking reference station is 8.68 meters N 44° 28′ W of observed station.

Marks.—Observed station is a nail in a pine stub flush with ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Frog" (S 6° 13′ W)	0	00	00	2 miles.
A shanty	37	16	..	¾ mile.
REFERENCE STATION	129	19	20	8.68 meters.
A shanty	189	53	..	1 mile.
A shanty	209	52	..	½ mile.
Tangent of land	217	43	..	½ mile.
Large house	236	48	..	2½ miles.
Windmill	243	52	..	2¾ miles.
Chimney of large house	254	24	..	2¼ miles.
Canning house stack	257	28	..	1¾ miles.
Canning house stack	275	26	..	1½ miles.
Near corner of Nanticoke Wharf	284	49	..	1½ miles.
Large house	297	32	..	2½ miles.
Large house	299	24	..	2½ miles.
Right tangent of Nanticoke woods	310	15	..	3 miles.
Left tangent of Sandy Point	341	48	..	1½ miles.

OKAY.

General locality.—Western shore of Nanticoke River, on Marsh Point, about ⅛ mile south of Swan Creek Cove and 2 miles west of Bivalve Wharf. (See Chart No. 41.)

Immediate locality.—Observed station is on marsh about 2 feet above high water, 10 yards back from shore, and 35 yards south of shanty known as Insley's watch house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—

	°	′	″	
Bivalve Church (N 84° 32′ E)	0	00	00	2¼ miles.
Chimney of house	20	38	..	2¼ miles.
Windmill tower	46	41	..	2¼ miles.
Tangent of land	92	23	..	1¾ miles.
Tangent of land	105	45	..	150 yards.
Left side of watch house	249	17	..	35 yards.
Right side of watch house	258	17	..	35 yards.
Space between chimneys of large house	340	43	..	3¼ miles.
Tangent of Bivalve Wharf	355	31	..	2¼ miles.
Stack of canning house	359	12	..	2¼ miles.

AR.

General locality.—Western shore of Nanticoke River about 1½ miles northwest of Bivalve Wharf, and ¾ mile north-northeast of entrance to Longrell Creek. (See Chart No. 41.)

Immediate locality.—Observed station is on marsh between two small creeks about 40 yards back from shore, 35 yards west-southwest of mouth of one creek, and 45 yards northwest of the mouth of the other creek.

Marks.—Observed station is center point of triangle on standard cement monument, projecting 4 inches above surface of ground.

References.—

	°	′	″	
"Nanticoke Church" (S 13° 34′ E)	0	00	00	3¾ miles.
Right edge Sandy Point woods	23	58	..	4 miles.
Smoke pipe of cabin	42	57	..	1½ miles.
Chimney of house	46	26	..	½ mile.
Left tangent of first woods	81	20	..	2¾ miles.
Left tangent of long thick woods	98	53	..	1 mile.
Left edge short thick woods	134	11	..	1 mile.
Chimney of cabin	247	47	..	½ mile.
Houses with several gables	262	18	..	3 miles.
Right edge Wetipquin woods	274	37	..	2¼ miles.
Chimney of house behind trees	302	43	..	2 miles.
Windmill	319	03	..	2 miles.
Stack of canning house	320	15	..	2 miles.
Chimney of house on Ragged Point	350	33	..	2¾ miles.
Windmill	352	57	..	3¼ miles.

GOVER.

General locality.—Northwestern shore of Nanticoke River about 1¾ miles west-northwest of entrance to Wetipquin Creek and ⅛ mile north of a cove named Perch Haul. (See Progress map.)

Immediate locality.—Observed station is on a point of marsh covered with grass and water bushes, about 15 yards northwest of extreme end of point, 200 yards east-northeast of a shanty among bushes and small trees, ¼ mile east of a clump of about 50 pine trees, and ¼ mile southeast of another clump of trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—

	°	′	″	
Bivalve Church (S 21° 30′ E)	0	00	00	2¾ miles.
Tangent of land	35	24	..	1 mile.
Left side of opening in woods	72	06	..	2 miles.
Two pine trees together	83	07	..	¾ mile.
Center of shanty	98	26	..	200 yards.
Clump of pine trees	123	56	..	¼ mile.
Clump of pine trees	176	20	..	¼ mile.

References—Continued.	°	′	″		
Inside edge of cove	201	45	..	.....	100 yards.
Clump of small pine trees	255	31	..	.....	¼ mile.
Tangent to point of land	269	35	..	.....	1½ miles.
Left tangent of Sandy Hill Wharf	276	02	..	.....	3 miles.
Large house	286	27	..	.....	3¼ miles.
Left edge of pine woods near Wetipquin Creek	328	13	..	.....	2 miles.

STREETT.

General locality.—Northwestern shore of Nanticoke River on point on southwest side of entrance to Jacks Creek. (See Progress map.)

Immediate locality.—Observed station is on a marsh and grass point about 7 yards west from its extreme end and 4 yards from each side of point to north and south. Cement monument marking reference station is 11.89 meters N 60° 22′ W of observed station.

Marks.—Observed station is nail in pine stub flush with ground. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″		
"Earle" (S 45° 01′ E)	0	00	00	.....	1 mile.
A shanty	0	41	..	.....	1 mile.
Large house	27	08	..	.....	2½ miles.
Canning-house stack at Tyaskin	33	42	..	.....	1¾ miles..
Large building	36	42	..	.....	1¾ miles.
Point of marsh	47	33	..	.....	100 yards.
First of four trees	135	01	..	.....	½ mile.
REFERENCE STATION	164	39	00	.....	11.89 meters.
Point of marsh	255	02	..	.....	30 yards.
House on the other side of Jacks Creek	258	13	..	.....	⅛ mile.
Left tangent of Sandy Hill Wharf	309	38	..	.....	1¼ miles.
A house	318	08	..	.....	1½ miles.

EARLE.

General locality.—Southeastern shore of Nanticoke River about 1 mile below Sandy Hill Wharf. (See Progress map.)

Immediate locality.—Observed station is on sandy and grass land between the river and a pine grove about 5 feet above high water, 80 yards back from shore, 15 yards southeast of a white oak tree, about 2½ feet in diameter, 15 yards southwest of another and larger white oak tree, and 20 yards east of a shanty.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″		
"Juliet" (S 41° 05′ W)	0	00	00	.....	1¼ miles..
Nail in blaze in white oak tree (2¼ feet diameter)	88	44	30	.....	13.98 meters.
Nail in blaze in pine tree	160	39	00	.....	19.05 meters.
Nail in blaze in oak tree (2½ feet diameter)	196	35	40	.....	13.95 meters.
Nail in blaze in pine tree	326	01	00	.....	15.76 meters.
Right tangent of woods on other side of Wetipquin Creek	358	52	..	.....	1½ miles.

JULIET.

General locality.—Eastern shore of Nanticoke River on point on southwest side of entrance to Wetipquin Creek. (See Progress map.)

Immediate locality.—Observed station is on sand and marsh point about 100 yards southwest of entrance to Wetipquin Creek, 10 yards back from high water, 5 yards outside of several small pine trees, and 100 yards north of dense pine woods.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—

	°	′	″		
"Earle" (N 41° 04′ E)	0	00	00	.....	1¾ miles.
Nail in blaze in pine tree	29	41	30	.....	4.92 meters.
Near point of roof of oyster house	40	05	..	.....	300 yards.
Left edge of woods	64	21	..	.....	200 yards.
Nail in blaze in pine tree	71	17	00	.....	6.31 meters.
Nail in blaze in pine tree	98	20	00	.....	6.88 meters.
Right edge of woods	163	52	..	.....	200 yards.
Right tangent of Bivalve Wharf	170	02	..	.....	1½ miles.
Two-story house	210	06	..	.....	2¼ miles.
Two-story house	228	37	..	.....	¾ mile.
Opening in woods	230	16	..	.....	3 miles.
House at Jacks Creek	324	00	..	.....	1¾ miles.
Tangent of land	345	58	..	.....	150 yards.
Tangent of land	354	49	..	.....	150 yards.

POLE.

General locality.—Eastern shore of Nanticoke River on wharf off town of Bivalve, located about 1¼ miles northeast of Ragged Point. (See Chart No. 41.)

Immediate locality.—Observed station is on western peak of a house on wharf at Bivalve about 300 yards from shore.

Marks.—Observed station is flagpole on peak of house.

References.—None necessary.

BIVALVE CHURCH.

General locality.—Eastern shore of Nanticoke River about ⅜ mile back from shore in town of Bivalve on main road leading to the steamer landing. (See Chart No. 41.)

Immediate locality.—Observed station is on Bivalve Methodist Church.

Marks.—Observed station is center of steeple on Bivalve Methodist Church.

References.—None necessary.

RAG.

General locality.—Eastern shore of Nanticoke River on northern side of Ragged Point, about 2 miles north-northeast of Roaring Point. (See Chart No. 41.)

Immediate locality.—Observed station is on a sandy point about 25 yards back from shore, 100 yards northeast of extreme end of point, 50 yards west of a grove of pine trees, 20 yards southwest of a group of pine trees, 75 yards southwest of another group of pine trees, and 20 yards west of two 15-inch pine trees 2½ feet apart.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Nanticoke Church" (S 1° 46′ E)	0	00	00	.....	1¾ miles.
Left end of Sandy Point	29	17	..	.....	3½ miles.
Chimney of house	51	48	..	.....	2½ miles.
Large tree at left end of woods	130	20	..	.....	3¼ miles.
Left one of two trees (opposite shore)	169	56	..	.....	3¼ miles.
Flagpole on Bivalve Wharf	201	11	..	.....	1¾ miles.
Smoke pipe on Bivalve wharf house	207	14	..	.....	1¾ miles.
Nail in stump of limb on pine tree	218	35	..	.....	32.78 meters.
Nail in baze in double pine tree	258	01	..	.....	19.66 meters.
Nail in blaze in large pine tree	293	26	..	.....	43.19 meters.
Chimney of house	303	29	..	.....	135 yards.
Windmill near large house	344	13	..	.....	¾ mile.
Steeple on barn	356	40	..	.....	1 mile.
Large chimney of large flat-roof house	357	10	..	.....	1 mile.

NANTICOKE CHURCH.

General locality.—Eastern shore of Nanticoke River in town of Nanticoke, about ⅛ mile back from river and ¾ mile northeast of Roaring Point. (See Chart No. 41.)

Immediate locality.—Observed station is on church known as "Nanticoke Methodist Episcopal Church."

Marks.—Observed station is center of spire on Nanticoke Methodist Episcopal Church.

References.—None necessary.

ROAR.

General locality.—Eastern shore of Nanticoke River on Roaring Point, about ¼ mile north from outer end of Roaring Point Wharf. (See Chart No. 41.)

Immediate locality.—Observed station is on a sandy knoll about 5 feet above high water, 20 yards south of shore, 40 yards north of shore, 30 yards east of extreme end of point, and 150 yards from pine woods which stand inshore from station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Frog" (S 39° 02′ W)	0	00	00	2½ miles.
Two shanties	19	17	..	2 miles.
One shanty	30	20	..	1¾ miles.
A shanty	71	32	..	1¼ miles.
A shanty	98	53	..	1¾ miles.
Barn steeple	117	41	..	4½ miles.
A shanty	121	25	..	2¾ miles.
A house	144	42	..	7½ miles.
Twin trees on Ragged Point	159	30	..	2 miles.
Chimney of house	175	23	..	1½ miles.
Windmill	184	04	..	1 mile.
Gambrel-roof house	184	32	..	1 mile.
Canning-house stack	195	11	..	⅝ mile.
Land end of wharf	271	58	..	¼ mile.
Large house	293	38	..	1½ miles.
Right tangent of Nanticoke Point woods	297	22	..	2½ miles.
Right tangent of Nanticoke Wharf	304	52	..	⅜ mile.
Left tangent of Sandy Point	359	51	..	1¾ miles.

NANTI.

General locality.—Eastern side of Nanticoke River about ½ mile northwest of Nanticoke Point, and 1¾ miles northwest of Great Shoals Light. (See Chart No. 41.)

Immediate locality.—Observed station is on grass land about 2 feet above high water, 20 yards back from shore, and about midway between house near poplar trees about ¼ mile north of station and the edge of woods on Nanticoke Point.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Sharkfin Shoal Light" (S 65° 14′ W)	0	00	00	5 miles.
Tangent of Sandy Point	51	33	..	2¾ miles.
Left end of Nanticoke Wharf	89	45	..	2 miles.
Near chimney of house	96	51	..	¾ mile.
Chimney of house	101	08	..	¼ mile.
Near chimney of house nearest woods	116	56	..	¾ mile.
Tree high above woods	119	53	..	2½ miles.
Right end of heavy woods	134	03	..	1¼ miles.
Right end of scant woods	147	11	..	¾ mile.
Wild cherry tree	178	24	..	50 yards.
Left end of woods	227	46	..	¼ mile.
Right end of woods	269	45	..	¼ mile.
Poplar tree Dames Quarter	307	28	..	2¾ miles.
Tangent of Haines Point	330	55	..	4½ miles.

WHITE.

General locality.—Eastern side of entrance to Nanticoke River on Stump Point, about 2¾ miles southeast of Roaring Point and 1⅜ miles northwest of Great Shoal Light. (See Chart No. 41.)

Immediate locality.—Observed station is on sand and grass point about 2 feet above high water, 3 yards east of shore, 20 yards northwest of shore, 15 yards north of extreme end of point, 40 yards west of a cove, 100 yards northwest of a point of land, and 100 yards southwest of a dense pine woods. Cement monument marking reference station is 16.63 meters N 3° 13′ E of observed station.

Marks.—Observed station is a nail in a pine stub about 6 inches below surface of ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Great Shoals Light" (S 44° 16′ E)	0	00	00	1¼ miles.
Poplar tree at Dames Quarter	65	08	..	2½ miles.
Tangent of Hall Point	86	06	..	3¾ miles.
Tangent of Sandy Point	164	17	..	3 miles.
Left end of pine woods	172	27	..	100 yards.
Right end of pine woods	213	21	..	150 yards.
REFERENCE STATION	227	29	00	16.63 meters.
Largest one in clump of about 12 pine trees	247	23	..	⅜ mile.
Chimney of cabin on Ellis Point	279	05	..	2 miles.
A house	311	54	..	¼ mile.
Point of land	335	02	..	100 yards.

GREAT SHOALS LIGHT.

General locality.—Entrance to Monie Bay and Wicomico River about halfway between Long Point and Mollies Point. (See Progress map.)

Marks.—Observed station is center of black lantern on square screw pile structure known as "Great Shoals Light."

Reference.—	°	′	″	
"Sharkfin Shoal Light" (S 81° 50′ W)	0	00	00	5⅞ miles.

ROOM.

General locality.—Eastern shore of upper Tangier Sound on Halls Point about 1⅛ miles northeast of Haines Point, and 2⅝ miles east-southeast of Sharkfin Shoal Light. (See Chart No. 41.)

Immediate locality.—Observed station is on a locust and mulberry fringed bluff about 15 feet high, 5 yards back from edge of bluff, 15 yards west-northwest of a barn, 15 yards from a wagon road parallel with shore, and 25 yards east of clump of mulberry trees. Cement monument marking reference station is 21.45 meters S 18° 30′ W of observed station and almost in line with large mulberry tree.

Marks.—Observed station is nail in center of stub with top flush with ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Sharkfin Shoal Light" (N 70° 00′ W)	0	00	00	2½ miles.
Gable on near side of house on Bishop Head	3	01	..	5½ miles.
Near end of roof of large 2½-story house	12	53	..	7¼ miles.
Left tangent of Clay Island	39	18	..	3½ miles.
Left side of Sandy Point woods	70	08	..	4 miles.
Roaring Point Wharf	85	22	..	5 miles.
Near chimney on end of large house	94	36	..	4¼ miles.
Right side of Nanticoke woods	110	28	..	3¾ miles.
"Mount Vernon Church"	127	18	..	7 miles.
Near corner of barn	137	06	..	15.96 meters.
Right-hand corner of barn	152	08	..	18.11 meters.
REFERENCE STATION	268	30	00	21.45 meters.
Large cedar tree	276	30	..	100 yards.
Two-inch iron pipe	279	38	30	9.21 meters.

SHARKFIN SHOAL LIGHT.

General locality.—Northern end of Tangier Sound about equally distant from entrances of Hooper Strait, Fishing Bay, and Nanticoke River. (See Chart No. 41.)

Immediate locality.—Observed station is on hexagonal, screw-pile structure known as Sharkfin Shoal Lighthouse.

Marks.—Observed station is center point of lantern on Sharkfin Shoal Light.

Reference.—

	°	′	″	
"Great Shoals Light" (N 81° 45′ E)	0	00	00	5⅞ miles.

HAINES.

General locality.—Eastern shore of upper Tangier Sound on Haines Point about ⅝ mile north of Deal Island Wharf, and 2½ miles southeast of Sharkfin Shoal Light. (See Chart No. 41.)

Immediate locality.—Observed station is on sand and grass point about 5 feet above high water, 20 yards back from shore, 3 yards west of a barb-wire fence, 20 yards south of a clump of locust and water bushes, and about on range with left edge of clump of trees and bushes and Sharkfin Shoal Light. Cement monument marking reference station is 9.64 meters N 77° 43′ E of observed station.

Marks.—Observed station is nail in pine stub in center of a drain tile with top broken off below surface. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Sharkfin Shoal Light" (N 45° 58′ W)	0	00	00	2½ miles.
Left of bushes	39	57	..	20 yards.
Left of Sandy Point woods	53	38	..	4¾ miles.
Chimney of 2½-story house	75	04	..	½ mile.
Chimney of house	85	49	..	350 yards.
Chimney on end of cottage	99	00	..	¾ mile.
REFERENCE STATION	123	40	40	9.64 meters.
Pine tree	148	37	30	2.14 meters.
Large square chimney of house	152	49	..	400 yards.
Right one of five large pine trees	184	40	..	300 yards.
Halfway between chimneys of store on Deal Island	213	08	..	¾ mile.
"Deal Island Church"	217	00	..	1½ miles.
Black gum tree	223	49	..	6.70 meters.
Right end of Deal Island wharf	234	10	..	½ mile.
"Hooper Strait Light"	343	34	..	7½ miles.

DEAL ISLAND CHURCH.

General locality.—Western side of upper Tangier Sound on Deal Island on main road about ¼ mile inshore, and ¾ mile south of bridge across Laws Thoroughfare. (See Chart No. 41.)

Immediate locality.—Observed station is on Deal Island Methodist Church.

Marks.—Observed station is center of steeple on Deal Island Methodist Church.

References.—None necessary.

SOLOMONS LUMP LIGHT.

General locality.—Kedge Straits about ½ mile north of Smith Island and about 1½ miles south of South Marsh. (See Progress map.)

Immediate locality.—Observed station is on square tower on northerly side of a caisson and octagonal structure known as "Solomons Lump Light."

Marks.—Observed station is center of black lantern on square tower.

References.—

	°	′	″	
"James Island Light" (S 42° 12′ E)	0	00	00	7⅛ miles.

HOLLAND ISLAND BAR LIGHT.

General locality.—Easterly side of Chesapeake Bay off entrance to Kedge Straits, about 2¾ miles south of Holland Island, and 3¾ miles northwest of Smith Island. (See Chart No. 42.)

Immediate locality.—Observed station is on hexagonal, screw-pile structure known as Holland Island Bar Light.

Marks.—Observed station is center point of lantern on Holland Island Bar Light.

References.—

	°	′	″		
"Solomons Lump Light" (S 72° 06′ E)	0	00	00	.....	4¾ miles.

HOLLAND ISLAND CHURCH SPIRE.

General locality.—Eastern side of Chesapeake Bay on Holland Island about 3½ miles north of Holland Island Bar Light. (See Chart No. 42.)

Immediate locality.—Observed station is on church known as Holland Island Church.

Marks.—Observed station is center of spire on Holland Island Church.

References.—None necessary.

OKAHANIKAN.

General locality.—Eastern shore of Chesapeake Bay on western side of Bloodsworth Island about ⅜ mile south of point at south side of entrance to Okahanikan Cove, and 2¾ miles south-southeast of Hooper Strait Light. (See Chart No. 42.)

Immediate locality.—Observed station is on sandy marsh about 2 feet above high water, 40 yards southeast of shore, 40 yards east of shore, and 35 yards west of water bushes between sand and soft marsh.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Hooper Strait Light" (N 17° 15′ E)	0	00	00	.....	2¾ miles.
Peak of barn	4	50	..	.....	4 miles.
Left chimney of large house	34	48	..	.....	3¾ miles.
Deal Island church spire	89	30	40	.....	8 miles.
Chimney on small house	160	00	..	.....	.....
Chimney of house on Billys Island	166	50	..	.....	1¼ miles.
Tangent to north end of Billys Island	173	03	..	.....	1 mile.
"Hooper Island Light"	280	55	40	.....	10 miles.
"Hopkins Memorial Church Cupola"	306	24	20	.....	4½ miles.
Chimney in center of house	308	48	..	.....	4½ miles.
Chimney on right end of house	351	16	..	.....	5 miles.

SENATOR.

General locality.—Western shore of Tangier Sound on southern side of Holland Straits and on extreme northeastern point of South Marsh. (See Progress map.)

Immediate locality.—Observed station is on marshland about 35 yards from north side of point, 30 yards from east side of point, 10 yards north of a small pool of water, and 5 yards northeast of another small pool of water. No permanent reference points near station.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—

	°	′	″		
"Sharkfin Shoal Light" (N 16° 21′ E)	0	00	00	.....	4¾ miles.
Chimney on house	31	30	..	.....	4¾ miles.
Left-hand chimney of crab house on Deal Island	50	19	..	.....	3½ miles.
Right end of large oyster house on Deal Island	81	59	..	.....	3½ miles.
Lone pine tree	201	35	..	.....	1⅞ miles.

MILES.

General locality.—Western shore of Tangier Sound on eastern side of the lower half of South Marsh just south of the middle one of three creeks on this shore of the island. (See Progress map.)

Immediate locality.—Observed station is on a marsh point about 75 yards south of entrance to a small creek, 50 yards south of the north side of the point, and 60 yards west of its extreme end.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″		
"Sharkfin Shoal Light" (N 8° 33′ E)	0	00	00	.....	7⅜ miles.
"Deal Island Church"	29	26	..	.....	5¼ miles.
End of roof of house among trees, Deal Island	33	48	..	.....	4¼ miles.
Tangent of near point of land	155	35	..	.....	¼ mile.
"Solomons Lump Light"	178	56	55	.....	3¼ miles.
First large tree (third from left)	231	57	..	.....	⅞ mile.
Lone pine tree	330	27	..	.....	4¼ miles.

FOG 2.

General locality.—Eastern shore of Chesapeake Bay and southern shore of Kedge Straits on northwest point of Smith Island known as Fog Point. (See Progress map.)

Immediate locality.—Observed station is among myrtle bushes on the north side of a sand and grass point about 1 foot above high water. 65 yards southwest from extreme end of point, 6 yards south-southeast from shore, and 50 yards east-northeast from the remains of old "Fog Point Lighthouse." Cement monument marking reference station is 15.26 meters S 0° 40′ W from observed station and about in line with a lone cherry tree one-fourth mile distant.

Marks.—Observed station is nail in center of tile pipe with top flush with surface of ground. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″		
"Solomons Lump Light" (N 59° 22′ E)	0	00	00	.....	1¾ miles.
Tangent of point of land	13	08	..	.....	¾ mile.
Large tree near two smaller ones	22	41	..	.....	1½ miles.
Lone pine tree	89	28	..	.....	1 mile.
REFERENCE STATION	121	18	30	.....	15.26 meters.
Large lone cherry tree	121	26	..	.....	¼ mile.
First one of two trees	133	43	..	.....	½ mile.
Old lighthouse foundation	193	47	..	.....	50 yards.
First tree on Holland Island	272	37	..	.....	5¾ miles.

POINT NO POINT LIGHT.

General locality.—Western side of Chesapeake Bay offshore about 1⅞ miles southeast of Point No Point and 6⅜ miles north-northeast of Point Lookout. (See Progress map.)

Immediate locality.—Observed station is on brick dwelling on a cylindrical foundation known as Point No Point Lighthouse.

Marks.—Observed station is center point of lantern on Point No Point Lighthouse.

References.—	°	′	″		
"Cedar Point Light" (N 19° 35′ W)	0	00	00	.....	12 miles.

POINT LOOKOUT LIGHT.

General locality.—Western side of Chesapeake Bay on Point Lookout at northern side of entrance to Potomac River. (See Progress map.)

Immediate locality.—Observed station is on Point Lookout Lighthouse, which is a dwelling on shore near a fog-bell tower.

Marks.—Observed station is center point of a lantern on a dwelling known as Point Lookout Lighthouse.

References.—	°	′	″		
"Smith Point Light" (S 34° 37′ E)	0	00	00	.....	13 miles.

BOUNDARIES OF OYSTER BARS.

EXPLANATION.

The law of the United States authorizing the cooperation of the Department of Commerce and Labor in the survey of natural oyster bars of Maryland provides for the designation and employment by the Department of Commerce and Labor of such officers, experts, and other technically qualified persons "as may be necessary to cooperate with the Maryland State Board of Shell Fish Commissioners in making a survey of and locating the natural oyster beds, bars, and rocks in the waters within the State of Maryland." The oyster laws of Maryland provide that the Maryland Shell Fish Commissioners, with the aid of such persons as may be designated by the Government, shall proceed "to have laid out, surveyed, and designated on the said charts the natural beds and bars, and shall cause to be marked and defined as accurately as practicable the limits and boundaries of the natural beds, bars, and rocks as established by said survey, and they shall take true and accurate notes of said survey in writing, and make an accurate report of said survey, setting forth such a description of landmarks as may be necessary to enable the said board, or their successors, to find and ascertain the boundary lines of the said natural oyster beds, bars, and rocks, as shown by a delineation on the maps and charts." The oyster laws of Maryland also provide in another section that there shall "be made a true and accurate survey of the natural oyster beds, bars, and rocks * * * with reference to fixed and permanent objects on the shore, giving courses and distances, to be fully described and set out in a written report of said survey."

Under the provisions of the laws quoted above the State of Maryland, in cooperation with the Department of Commerce and Labor, must define the boundaries of the natural oyster bars "as accurately as practicable" and also "with reference to fixed and permanent objects on the shore, giving courses and distances." The requirement of "as accurately as practicable" is easily fulfilled by definition of the location of the corners of the oyster bars by latitude and longitude. In fact, this method is probably the most satisfactory and accurate one that could be used for all purposes of legal definition or for relocation of the oyster-bar boundaries by competent engineers. Therefore the additional requirement of "giving courses and distances" is superfluous and is only fulfilled in the published definitions on account of the specific provisions of the law making it compulsory. This part of the description of boundaries has involved an immense amount of extra computations in order to prevent technical discrepancies between the latitude and longitude of a corner of an oyster bar and its distance and bearing from objects on shore of known latitude and longitude without adding anything to the accuracy and very little to the convenience of practical use of the descriptions of the oyster-bar boundaries.

As provided by law the boundaries of the oyster bars are all straight lines, but in the work already completed they have inclosed areas of all shapes from triangles to

complicated 14-sided figures, and of all sizes from 4 acres to 7,548 acres. The sides have varied in length from 93 to 7,529 yards, and in some cases the corners of the boundaries have been practically at the triangulation stations from which they are located, while in other instances they were over 13,600 yards from the landmarks most available for the purpose of fixing their position.

The varied characteristics of the legal boundaries of the oyster bars indicated by the above statement, together with the complicated requirements of the law under which the survey has been made and the magnitude of the work with the consequent need of fixed and uniform methods, have made the problem of describing the boundaries one of considerable difficulty and great importance.

The boundaries of the oyster bars of Maryland, as established by the Shell Fish Commission and delineated on the Coast and Geodetic Survey charts and projections and on the leasing charts of the commission, are technically defined and described by a method somewhat different from that used in other oyster surveys. But it is believed that the forms finally adopted will fulfill all needs of the survey for both the present and the future.

METHOD OF DESCRIBING BOUNDARIES.

The descriptions have been arranged in tabular form, thus avoiding many hundred repetitions of the same words by making one explanation of the tables sufficient for all oyster bars in each county.

Title.—At the top of each tabular form is given the legal name of the oyster bar to be described, and the one by which it is known and designated in the published oyster records and on the oyster charts. The adopted name of the oyster bar is the one used locally, as nearly as could be ascertained by the hydrographic engineer of the commission; and when there was no local name in common use a name was selected from one of the prominent features of the vicinity that would naturally suggest the section of the waters where the oyster bar was located.

Underneath the name, in parentheses, is given the general locality of the oyster bar and the serial number of the "Maryland Oyster Chart" on which its legal boundaries are shown.[1]

First column.—This column, under the heading of "Corner of bar," gives the number corresponding to the corner of the boundary as shown on the charts and to the number on the buoy marking the actual corner of the bar. The numbers of the corners have been assigned by naming the southernmost point No. 1, thence proceeding in a clockwise direction around the bar. Where a corner of one oyster bar is identical with the corner of the boundaries of one or more other oyster bars, only the number of the corner of the oyster bar being described in the table is given in this column.

Second and third columns.—These two columns, under the headings of "Latitude" and "Longitude," give the geographic positions of the corners. These positions have been adopted by the commission as the primary technical definition of the location of the corners, and should be considered as final in case of a dispute arising from discrepancies caused by other means of location. The latitudes and longitudes given in these columns are based on the United States standard datum of the Coast and Geodetic Survey, and the points thus defined can be relocated from distant triangulation stations

[1] These charts can be obtained by application to the Superintendent of the Coast and Geodetic Survey at Washington, D. C.

of the survey, even though all the landmarks and buoys originally used for their location have been destroyed by natural or other causes.

Fourth and fifth columns.—These two columns, under the general heading of "True bearing"[1] and the specific headings "Forward" and "Back," give bearings measured from a true north-and-south line. The three "Forward" bearings are from the corner of the boundary designated in the first column to the triangulation stations named on the corresponding lines in the last column, and the three "Back" bearings are from these same stations in the last column to the corresponding corner of boundary in the first column. The difference in minutes of arc between the forward and back bearings shown in some cases is actual and not accidental, and is due to the fact that the computations took into account the spheroidal shape of the earth.

Sixth column.—This column, under the heading of "Distance," gives the three computed distances in yards from the corner of the bar noted in the first column to the three triangulation stations named on the corresponding lines in the last column, and vice versa.

Seventh column.—This column, under the heading of "U. S. C. & G. S. triangulation station,"[2] gives the names of the landmarks from which were computed the corresponding "Latitude," "Longitude," "True bearing," and "Distance" of the "Corner of bar" designated in the first column. A full description of the location and markings of these triangulation stations is given in another part of this publication under the heading of "Descriptions of triangulation stations."

SURVEYING METHODS FOR RELOCATION OF BOUNDARIES.

There are a number of methods that can be used in the relocation of the actual boundaries of the natural oyster bars as technically described in this publication and delineated on the published charts of the Coast and Geodetic Survey and the leasing charts of the Shell Fish Commission.

The following brief descriptions of five of these more or less different methods assume a certain amount of experience and knowledge on the part of the engineer in the particular kind of surveying under consideration, and are only intended as reminders of ways and means that can be used.

There are two problems that are likely to present themselves to those interested in the boundaries of natural oyster bars: One, to determine whether the buoys marking the corners have been dragged or otherwise moved from their correct positions, and the other, to relocate or reestablish a buoy at the point from which it was removed. The different ways of solving these two problems partly depend upon the instruments possessed by the engineer and his assistants and partly on his training and experience.

(1) *Triangulation.*—This method is the one that will give the greatest accuracy, but on account of its requiring special data and instruments, and being an operation rarely used by engineers not engaged in geodetic surveying, it is recommended only for cases in dispute that can not be settled satisfactorily by some other method. An explanation of this class of work would be too long for a report of this sort, and those

[1] The mean magnetic variation for Dorchester County was 6° 00′ west of north in 1911 and increasing at the rate of 5′ yearly.

[2] Geographic positions of these triangulation stations can be obtained by application to the Superintendent of the Coast and Geodetic Survey, Washington, D. C.

not familiar with this method are referred to the publications on the subject by the Coast and Geodetic Survey.

(2) *Hydrographic.*—This method is the most simple and satisfactory one that can be adopted if the surveyor can obtain the use of the necessary instruments and assistants. It is the one best suited for the work of the engineers of the Commission in relocating corners of boundaries, as it gives results of the accuracy ordinarily required and is rapid in execution. Besides, it has the advantage of being available whenever three triangulation stations of suitable relative positions are visible from the offshore points needing relocation.

Most navigators and others familiar with the use of a sextant are well acquainted with the graphic three-point method of fixing a position on water, and only a brief description of the operation will be stated.

In the case where there is only one engineer having a single sextant, the three-point method can be used if the two angles determining the position of a buoy are first derived from the "Forward" bearings given in the tabular forms describing the boundaries of the oyster bars. For example, take "Drum Point" oyster bar, which is the first one described in this publication, and assume that "Corner No. 3" is to be examined as to its position. The angle between the two landmarks "Up" and "Blind" as determined from right to left from the forward bearings from this corner is 26° 36′ and the angle between "Blind" and "Myrtle" is 60° 12′. Having these two angles, the engineer proceeds to the buoy of doubtful location and measures the actual sextant angles between the landmarks for which the calculations were made. If the measured and calculated angles do not agree the buoy is not in its correct position and the boundary corner must be relocated. This is accomplished by moving the boat about until a point is reached where the angles do agree, and this point being the desired location, the buoy can be placed in its correct position.

If the engineer can obtain the use of both a sextant and a three-arm protractor (position finder), the availability of the hydrographic method is increased, as the use of the protractor is essential in case of the washing away or destruction of one or more of the landmarks originally used in describing the boundaries. Under these circumstances, any three landmarks of suitable relative position that are visible from the point to be located can be utilized. For example, the engineer can proceed to the buoy of doubtful position and measure the two adjacent sextant angles between the three landmarks selected. These two angles are set off on the three-arm protractor and the actual position of the buoy plotted on the chart by shifting the protractor about until the edge of each of the three arms passes through the center of the symbols on the chart marking the position of the three landmarks selected. The center of the hub of the protractor will indicate on the chart the actual position of the buoy, and if the point thus obtained does not coincide with the true position of the corner of the boundary as given on the chart, the surveyor can proceed to locate the buoy correctly by reversing the operation. This is done by placing the center point of the hub of the protractor over the corner of the boundary in question and measuring on the chart the two adjacent protractor angles between the three selected landmarks. One of the angles thus obtained is set on the sextant and the boat moved about until the two landmarks are shown by the sextant to subtend the same angle obtained from the protractor. The

second angle is then placed on the sextant and the same operation gone through, and so on, first using one angle on the sextant, then the other, until a point is reached where both observed sextant angles are practically identical with the protractor angles. The point thus located is the desired one and the buoy can be placed to mark the true position of the corner of the boundary in question.

If the engineer possesses two sextants and a protractor, this problem is far easier of solution, as the two angles can be set off on separate sextants and the observer can quickly find the desired point where they agree with the protractor angles by using one sextant after the other without the need of resetting either.

If there are two observers, two sextants, and a protractor, it can be seen that the best conditions for both rapid and accurate hydrographic location of a point is attained. In fact, this is the method by which the buoys at the corners of the boundaries were originally placed by the hydrographic engineer to the commission.

(3) *Magnetic bearings from offshore.*—This method of fixing a position on water is a simple and well-known one in navigation. It is available to anyone having a boat compass and will be of special use to the State Fishery Force in investigating cases where buoys are supposed to have been moved for illegal purposes.

In the case where a buoy is supposed to have been moved from its true position the observer can take compass bearings to the three landmarks given in the last column of the tables opposite the boundary corner in question. These bearings are then corrected for the local declination,[1] and if the results agree with the published bearings the buoy is correctly located.

In the case where the buoy is not in its correct position, or has disappeared altogether, the desired point can be determined by maneuvering the vessel until the corrected bearings agree with the ones in the tabular descriptions, when the buoy can be anchored in its proper location.

In the case where the landmarks, for which the bearings are published, have been destroyed or washed away, any landmarks whose positions are indicated on the charts can be used. This can be done by getting their bearings directly from the chart by parallel rulers or a protractor and then applying these new bearings in the same manner as the ones published in the tables.

(4) *Magnetic bearings from shore.*—This method will be of special value to engineers having an ordinary surveyor's compass. The compass can be set over the point marking a "triangulation station" on shore, the name of which is given in the last column opposite the "corner" in question. The instrument is then set at the corresponding "back" bearing (corrected for local magnetic declination) given in the fifth column of the tables opposite the "corner" in question. The direction thus determined will give one range on which the desired point must be located. The compass can then be moved to a second triangulation station and another range located in a similar manner. The intersection of these two range lines will give the desired point; but in general it should be checked by an additional range line determined from a third station.

(5) *Horizontal angles measured at landmarks.*—This process is a modification of the triangulation method, and will be useful to engineers who have a transit and desire considerable accuracy.

[1] The mean magnetic variation for Dorchester County was 6° 00′ west of north in 1911 and increasing at the rate of 5′ yearly.

The instrument is placed over a "triangulation station," the name of which appears in the last column of the tabular description opposite the "corner" in question. The telescope is then pointed to the landmark indicated in the "Descriptions of landmarks" as having a direction of 0° 00′ 00″ from the triangulation station being occupied by the transit. The tabular description of the boundaries is next examined and the "back" bearing of the questionable boundary "corner" from the landmark being occupied is taken out. The angle calculated from this "back" bearing and the bearing given in parentheses alongside the zero landmark in the "Descriptions of landmarks" is then set off on the transit and a range line established on which the desired point must be located. A similar process is then carried on at a second station, and so on until the position of the buoy is satisfactorily fixed.

BOUNDARIES OF NATURAL OYSTER BARS.

DRUM POINT.

(*Upper Choptank River—Chart No. 35.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 38 35.96	75 57 34.20	N 77 36 W	S 77 36 E	663	Up.
			S 75 48 W	N 75 47 E	1,776	Blind.
			S 15 36 W	N 15 36 E	201	Myrtle.
2	38 38 37.27	75 57 37.42	N 80 05 W	S 80 06 E	571	Up.
			S 73 40 W	N 73 39 E	1,706	Blind.
			S 7 24 E	N 7 24 W	241	Myrtle.
3	38 38 52.76	75 57 27.92	S 62 27 W	N 62 26 E	918	Up.
			S 16 09 W	N 16 09 E	792	Myrtle.
			S 11 58 W	N 11 58 E	1,576	Hut.
4	38 38 50.12	75 57 22.04	S 70 55 W	N 70 54 E	1,025	Up.
			S 29 14 W	N 29 14 E	770	Myrtle.
			S 18 22 W	N 18 22 E	1,531	Hut.

CABIN CREEK ENTRANCE.

(*Upper Choptank River—Chart No. 35.*)

1	38 38 02.66	75 58 13.40	N 17.08 E	S 17 08 W	1,323	Up.
			N 44 54 W	S 44 55 E	970	Blind.
			S 84 07 W	N 84 07 E	1,824	Raccoon.
2	38 38 07.42	75 58 17.50	N 24 17 E	S 24 17 W	1,215	Up.
			N 47 35 W	S 47 36 E	781	Blind.
			S 78 30 W	N 78 29 E	1,741	Raccoon.
3	38 38 14.37	75 58 05.06	N 11 00 E	S 11 00 W	886	Up.
			N 72 06 W	S 72 07 E	951	Blind.
			S 74 03 W	N 74 02 E	2,116	Raccoon.
4	38 38 10.08	75 58 01.20	N 3 47 E	S 3 47 W	1,017	Up.
			N 66 33 W	S 66 34 E	1,098	Blind.
			S 78 27 W	N 78 26 E	2,181	Raccoon.

CABIN CREEK.

(*Upper Choptank River—Chart No. 35.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 37 33.23	75 58 28.98	N 9 14 W	S 9 14 E	1,702	Blind.
			N 60 07 W	S 60 07 E	1,617	Raccoon.
			S 84 56 W	N 84 56 E	1,748	Bank.
2	38 37 46.60	75 58 57.78	N 21 41 E	S 21 42 W	1,322	Blind.
			N 61 00 W	S 61 00 E	732	Raccoon.
			S 58 18 W	N 58 18 E	1,150	Bank.
	Thence along county boundary as delineated on chart No. 35 to corner No. 3.					
3	38 38 07.18	75 58 37.02	N 42 21 E	S 42 22 W	1,506	Up.
			N 6 26 W	S 6 26 E	538	Blind.
			S 74 06 W	N 74 05 E	1,237	Raccoon.
4	38 37 55.62	75 58 17.54	N 18 23 E	S 18 23 W	1,584	Up.
			N 31 54 W	S 31 54 E	1,089	Blind.
			N 88 17 W	S 88 18 E	1,706	Raccoon.

TANNERS PATCH.

(*Upper Choptank River—Chart No. 35.*)

1	38 36 52.72	75 58 44.82	S 24 01 E	N 24 01 W	1,070	War.
			N 65 28 E	S 65 28 W	431	Wick.
			N 24 21 W	S 24 22 E	2,384	Raccoon.
2	38 37 01.20	75 58 57.24	S 31 11 E	N 31 11 W	1,475	War.
			S 81 34 E	N 81 34 W	728	Wick.
			N 19 09 W	S 19 09 E	1,997	Raccoon.
3	38 37 08.12	75 58 50.58	N 59 21 W	S 59 22 E	1,356	Bank.
			S 71 19 W	N 71 18 E	788	Spindle.
			S 30 37 W	N 30 37 E	1,102	Jam.
4	38 36 59.38	75 58 38.21	S 53 39 W	N 53 38 E	1,103	Jam.
			N 87 45 W	S 87 46 E	1,075	Spindle.
			N 56 35 W	S 56 35 E	1,793	Bank.

DIXON.

(*Upper Choptank River—Chart No. 35.*)

1	38 35 46.40	75 59 12.80	S 27 19 E	N 27 19 W	1,502	Chief.
			S 82 40 E	N 82 39 W	906	Gander.
			N 43 01 E	S 43 02 W	1,724	War.
	Thence along county boundary as delineated on chart No. 35 to corner No. 2.					
2	38 36 26.90	75 58 57.27	S 18 11 E	N 18 11 W	1,559	Gander.
			S 82 07 E	N 82 07 W	772	War.
			N 34 31 E	S 34 31 W	1,274	Wick.
3	38 36 21.78	75 58 45.54	S 7 40 E	N 7 40 W	1,320	Gander.
			N 81 38 E	S 81 38 W	459	War.
			N 18 36 E	S 18 36 W	1,290	Wick.
4	38 35 57.08	75 58 53.42	S 5 56 E	N 5 56 W	1,703	Chief.
			S 38 58 E	N 38 58 W	611	Gander.
			S 36 23 E	N 36 23 W	1,118	War.

OYSTER SHELL POINT.

(*Upper Choptank River—Chart No. 35.*)

Corner of bar	Latitude	Longitude	True bearing: Forward	True bearing: Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 35 05. 58	76 00 08. 13	N 61 54 E	S 61 55 W	2,677	Gander.
			N 4 16 E	S 4 17 W	1,257	Duck.
			N 60 16 W	S 60 17 E	1,720	Barber.
2	38 35 14. 68	76 00 30. 08	N 72 03 E	S 72 04 W	3,094	Gander.
			N 35 29 E	S 35 29 W	1,162	Duck.
			N 59 07 W	S 59 07 E	1,063	Barber.
	Thence along county boundary as delineated on chart No. 35 to corner No. 3.					
3	38 35 29. 35	75 59 58. 01	N 77 38 E	S 77 39 W	2,144	Gander.
			N 21 05 W	S 21 05 E	484	Duck.
			N 88 21 W	S 88 21 E	1,762	Barber.
4	38 35 13. 00	75 59 45. 02	N 60 00 E	S 60 01 W	2,021	Gander.
			N 27 18 W	S 27 19 E	1,129	Duck.
			N 74 02 W	S 74 03 E	2,189	Barber.

STATES BANK.

(*Middle Choptank River—Chart No. 35.*)

1	38 34 03. 60	76 02 35. 51	N 43 03 E	S 43 03 W	1,947	Rear.
			N 9 06 E	S 9 06 W	2,010	Boling.
			S 89 16 W	N 89 15 E	1,075	Shoal.
2	38 34 11. 20	76 02 32. 80	N 47 08 E	S 47 09 W	1,715	Rear.
			N 8 06 E	S 8 07 W	1,754	Boling.
			S 76 45 W	N 76 45 E	1,179	Shoal.
3	38 34 24. 13	76 02 28. 08	N 57 10 E	S 57 10 W	1,347	Rear.
			N 5 22 E	S 5 22 W	1,298	Boling.
			S 60 58 W	N 60 58 E	1,456	Shoal.
	Thence along county boundary as delineated on Chart No. 35 to corner No. 4.					
4	38 34 18. 74	76 01 58. 46	S 49 58 E	N 49 58 W	926	Ferry.
			N 20 53 E	S 20 53 W	977	Rear.
			N 24 13 W	S 24 13 E	1,616	Boling.
5	38 34 10. 08	76 02 02. 44	S 69 33 E	N 69 33 W	869	Ferry.
			N 20 38 E	S 20 38 W	1,287	Rear.
			N 17 31 W	S 17 31 E	1,851	Boling.

SHOAL CREEK.

(*Middle Choptank River—Chart No. 35.*)

1	38 34 03. 60	76 02 35. 51	N 43 02 E	S 43 03 W	1,947	Rear.
			N 9 06 E	S 9 06 W	2,010	Boling.
			S 89 16 W	N 89 15 E	1,075	Shoal.
2	38 34 26. 23	76 03 37. 80	S 36 26 E	N 36 26 W	966	Shoal.
			N 16 10 E	S 16 11 W	2,543	Double.
			N 51 04 W	S 51 05 E	2,137	Cambridge.
3	38 34 38. 42	76 03 29. 50	N 84 51 E	S 84 52 W	2,769	Rear.
			N 13 31 E	S 13 32 W	2,090	Double.
			N 63 40 W	S 63 41 E	2,100	Cambridge.
4	38 34 11. 20	76 02 32. 80	N 47 08 E	S 47 09 W	1,715	Rear.
			N 8 06 E	S 8 07 W	1,754	Boling.
			S 76 45 W	N 76 45 E	1,179	Shoal.

GREEN MARSH.

(*Middle Choptank River—Chart No. 35.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 34 36.98	76 04 07.08	N 42 10 W	S 42 10 E	1,322	Cambridge.
			S 19 40 W	N 19 40 E	591	East Cambridge tall stack.
			S 49 48 E	N 49 48 W	1,766	Shoal.
2	38 35 06.05	76 04 40.62	N 65 06 E	S 65 07 W	2,614	Double.
			N 7 12 W	S 7 13 E	3,682	Red.
			N 50 20 W	S 50 21 E	1,479	Command.
3	38 35 27.32	76 04 27.48	N 81 21 W	S 81 22 E	1,503	Command.
			S 25 52 W	N 25 52 E	797	Cambridge.
			S 33 39 E	N 33 38 W	3,409	Shoal.
4	38 34 49.95	76 03 47.52	N 68 53 W	S 68 53 E	1,507	Cambridge.
			S 35 48 W	N 35 48 E	1,225	East Cambridge tall stack.
			S 27 47 E	N 27 47 W	1,783	Shoal.

HAMBROOKS.

(*Middle Choptank River—Chart No. 35.*)

1	38 35 36.96	76 04 11.95	S 87 00 W	N 86 59 E	1,900	Command.
			S 36 03 W	N 36 03 E	1,289	Cambridge.
			N 87 58 E	S 87 58 W	1,613	Double.
2	38 35 51.84	76 05 01.66	S 81 22 E	N 81 21 W	2,961	Double.
			N 2 34 E	S 2 34 W	2,112	Red.
			N 59 52 W	S 59 53 E	3,077	Howells.
3	38 36 10.60	76 05 12.54	N 71 30 E	S 71 31 W	3,391	Double.
			N 14 32 E	S 14 32 W	1,526	Red.
			N 68 58 W	S 68 59 E	2,544	Howells.
	Thence along county boundary as delineated on chart No. 35 to corner No. 1.					

TURTLE BACK.

(*Middle Choptank River—Chart No. 35.*)

1	38 35 43.90	76 05 21.78	N 14 47 E	S 14 47 W	2,457	Red.
			N 49 35 W	S 49 36 E	2,796	Howells.
			S 64 58 W	N 64 57 E	3,052	Howard.
2	38 35 58.78	76 05 55.86	N 39 11 E	S 39 12 W	2,419	Red.
			N 43 06 W	S 43 06 E	1,797	Howells.
			S 46 06 W	N 46 05 E	2,586	Howard.
	Thence along county boundary as delineated on Chart No. 35 to corner No. 3.					
3	38 36 09.56	76 05 26.90	N 26 46 E	S 26 46 W	1,693	Red.
			N 64 34 W	S 64 35 E	2,208	Howells.
			S 50 39 W	N 50 38 E	3,401	Howard.

SANDY HILL LUMPS.

(*Middle Choptank River—Chart No. 35.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 35 30.92	76 06 04.28	N 84 27 E	S 84 28 W	1,082	Command.
			N 24 03 W	S 24 04 E	2,465	Howells.
			N 66 29 W	S 66 31 E	4,143	Toot.
2	38 35 36.38	76 06 08.12	S 86 08 E	N 86 08 W	1,181	Command.
			N 23 36 W	S 23 36 E	2,256	Howells.
			N 68 21 W	S 68 22 E	3,979	Toot.
3	38 35 42.82	76 05 56.38	S 71 07 E	N 71 06 W	916	Command.
			N 33 16 W	S 33 17 E	2,212	Howells.
			N 72 40 W	S 72 41 E	4,199	Toot.
4	38 35 35.45	76 05 51.45	S 86 15 E	N 86 15 W	738	Command.
			N 32 38 W	S 32 39 E	2,492	Howells.
			N 70 05 W	S 70 07 E	4,402	Toot.

SANDY HILL.

(*Middle Choptank River—Chart No. 35.*)

1	38 35 18.80	76 06 32.90	N 74 22 E	S 74 23 W	1,904	Command.
			N 5 19 W	S 5 19 E	2,672	Howells.
			N 55 53 W	S 55 54 E	3,674	Toot.
2	38 35 23.28	76 07 29.58	N 83 49 E	S 83 50 W	3,353	Command.
			N 26 32 E	S 26 32 W	2,804	Howells.
			N 21 12 W	S 21 13 E	6,209	Chlora.
	Thence from corner No. 2 along the mean low water line of the shore to corner No. 3, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
3	38 35 29.62	76 07 39.76	N 87 39 E	S 87 41 W	3,607	Command.
			N 33 33 E	S 33 33 W	2,754	Howells.
			N 19 31 W	S 19 32 E	5,916	Chlora.
4	38 36 15.38	76 07 16.76	N 85 21 W	S 85 22 E	1,888	Toot.
			S 6 45 E	N 6 44 W	2,369	Howard.
			S 65 01 E	N 66 00 W	3,305	Command.
5	38 35 49.78	76 06 23.68	N 72 49 W	S 72 50 E	3,439	Toot.
			S 37 06 W	N 37 06 E	1,868	Howard.
			S 71 31 E	N 71 30 W	1,676	Command.

COMMANDER.

(*Middle Choptank River—Chart No. 35.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 35 05.62	76 07 06.25	N 11 34 E	S 11 34 W	3,169	Howells.
			N 4 25 W	S 4 25 E	5,262	Trappe.
			N 40 45 W	S 40 45 E	3,308	Toot.
	Thence from corner No. 1 along the mean low water line of the shore to corner No. 2, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
2	38 35 10.24	76 07 15.66	S 57 55 E	N 57 55 W	294	Howard.
			N 74 53 E	S 74 54 W	3,072	Command.
			N 1 00 W	S 1 00 E	4,607	Black Beacon.
3	38 35 13.00	76 07 13.01	S 35 41 E	N 35 41 W	307	Howard.
			N 76 15 E	S 76 16 W	2,981	Command.
			N 1 54 W	S 1 54 E	4,514	Black Beacon.
4	38 35 09.10	76 07 04.21	N 72 29 E	S 72 30 W	2,792	Command.
			N 11 00 E	S 11 01 W	3,043	Howells.
			N 42 49 W	S 42 50 E	3,256	Toot.

HORN POINT.

(*Middle Choptank River—Chart No. 35.*)

1	38 36 01.54	76 08 51.30	N 1 04 W	S 1 04 E	4,501	Chlora.
			N 36 28 W	S 36 29 E	3,859	Large water tank.
			N 89 02 W	S 89 03 E	1,819	Le Compte.
2	38 36 05.80	76 08 59.82	N 1 51 E	S 1 51 W	4,358	Chlora.
			N 34 57 W	S 34 58 E	3,611	Large water tank.
			S 85 57 W	N 85 57 E	1,598	Le Compte.
3	38 36 31.46	76 08 34.36	S 66 39 W	N 66 39 E	2,469	Le Compte.
			S 23 54 E	N 23 54 W	425	Toot.
			N 85 58 E	S 85 59 W	2,976	Howells.
4	38 36 46.21	76 08 32.40	S 57 32 W	N 57 29 E	2,748	Le Compte.
			S 7 44 E	N 7 44 W	895	Toot.
			S 84 21 E	N 84 20 W	2,929	Howells.
5	38 36 22.66	76 08 05.67	S 31 11 E	N 31 11 W	3,037	Howard.
			N 77 05 E	S 77 06 W	2,266	Howells.
			N 18 50 W	S 18 50 E	4,001	Chlora.
6	38 36 14.90	76 08 21.45	S 40 25 E	N 40 25 W	3,070	Howard.
			N 73 42 E	S 73 43 W	2,735	Howells.
			N 12 11 W	S 12 11 E	4,143	Chlora.
	Thence from corner No. 6 along the mean low water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					

LE COMPTE.

(Middle Choptank River—Chart No. 35.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 36 31.46	76 08 34.36	S 66 39 W	N 66 39 E	2,469	Le Compte.
			S 23 54 E	N 23 54 W	425	Toot.
			N 85 58 E	S 85 59 W	2,976	Howells.
2	38 37 03.90	76 09 04.60	S 35 18 W	N 35 17 E	2,538	Le Compte.
			S 33 16 E	N 33 15 W	1,769	Toot.
			S 76 47 E	N 76 45 W	3,869	Howells.
3	38 37 24.00	76 08 54.36	S 32 17 W	N 32 17 E	3,252	Le Compte.
			S 17 59 E	N 17 59 W	2,271	Toot.
			S 65 55 E	N 65 52 W	3,829	Howells.
4	38 37 52.86	76 09 25.36	N 47 35 E	S 47 36 W	1,106	Chlora.
			N 2 15 E	S 2 15 W	3,304	Landeye.
			S 64 59 W	N 64 58 E	1,538	Large Water Tank.
	Thence along county boundary as delineated on Chart No. 35 to corner No. 5.					
5	38 37 17.02	76 08 23.70	S 45 23 W	N 45 22 E	3,580	Le Compte.
			S 3 16 W	N 3 16 E	1,929	Toot.
			S 63 42 E	N 63 41 W	2,994	Howells.
6	38 36 46.21	76 08 32.40	S 57 32 W	N 57 29 E	2,748	Le Comte.
			S 7 44 E	N 7 44 W	895	Toot.
			S 84 21 E	N 84 20 W	2,929	Howells.

CASTLE HAVEN CREEK.

(Middle Choptank River—Chart No. 35.)

1	38 36 53.06	76 09 52.72	S 6 28 W	N 6 28 E	1,717	Le Compte.
			S 63 33 E	N 63 32 W	2,509	Toot.
			N 26 06 W	S 26 05 E	1,521	Large Water Tank.
	Thence from corner No. 1 along the mean low water line of the shore to corner No. 2, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
2	38 37 21.68	76 10 13.20	N 87 52 E	S 87 54 W	4,619	Black Beacon.
			N 49 12 E	S 49 13 W	2,750	Chlora.
			N 17 38 W	S 17 38 E	4,210	Large Water Tank.
3	38 37 39.00	76 10 00.38	S 68 37 W	N 68 37 E	502	Large Water Tank.
			S 42 33 E	N 42 32 W	3,620	Toot.
			S 84 30 E	N 84 28 W	4,297	Black Beacon.
4	38 37 17.41	76 09 30.56	N 66 31 W	S 66 32 E	1,369	Large Water Tank.
			S 17 09 W	N 17 08 E	2,644	Le Compte.
			S 40 34 E	N 40 33 W	2,551	Toot.

CASTLE HAVEN.

(Outer Choptank River—Charts Nos. 35 and 37.)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
	38 36 51.26	76 12 04.64	N 60 26 W	S 60 27 E	3,767	Dot.
			S 20 37 W	N 20 37 E	114	Corner.
			N 63 10 E	S 63 11 W	3,161	Large Water Tank.
2	38 36 58.50	76 12 39.54	S 68 22 E	N 68 22 W	950	Corner.
			N 27 15 E	S 27 16 W	5,426	Choptank River Light.
			N 55 32 W	S 55 33 E	2,855	Dot.
3	38 37 32.00	76 12 49.04	S 37 29 E	N 37 28 W	1,865	Corner.
			N 36 32 E	S 36 33 W	4,597	Choptank River Light.
			N 76 59 W	S 77 00 E	2,158	Dot.
4	38 37 28.60	76 12 09.40	N 79 13 W	S 79 14 E	3,208	Dot.
			S 3 36 E	N 3 36 W	1,368	Corner.
			N 86 45 E	S 86 46 W	2,952	Large Water Tank.
5	38 38 28.84	76 10 46.48	S 31 49 W	N 31 48 E	3,998	Corner.
			S 35 07 E	N 35 07 W	1,928	Castle.
			S 81 02 E	N 81 00 W	2,999	Chlora.
6	38 37 38.70	76 09 49.62	N 50 00 E	S 50 01 W	1,903	Chlora.
			N 30 04 W	S 30 05 E	4,008	Choptank River Light.
			N 73 59 W	S 73 59 E	410	Castle.

Thence from corner No. 6 along the mean low water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

COOK POINT.

(Outer Choptank River—Charts Nos. 36 and 37.)

1	38 38 15.20	76 16 26.68	S 68 09 W	N 68 09 E	1,768	Chef.
			S 75 07 E	N 75 06 W	3,782	Dot.
			N 31 13 E	S 31 15 W	7,853	Roys.
2	38 38 37.80	76 17 47.96	S 19 43 E	N 19 42 W	1,508	Chef.
			S 73 22 E	N 73 20 W	6,059	Dot.
			N 23 34 W	S 23 35 E	6,020	Bar.
3	38 38 48.40	76 17 48.16	S 16 08 E	N 16 07 W	1,850	Chef.
			S 70 12 E	N 70 10 W	6,174	Dot.
			N 24 57 W	S 24 58 E	5,692	Bar.
4	38 38 52.80	76 17 30.32	S 1 15 E	N 1 15 W	1,926	Chef.
			S 67 14 E	N 67 12 W	5,788	Dot.
			N 16 58 E	S 16 59 W	6,768	Nelson 3.
5	38 39 47.20	76 17 08.36	N 16 44 E	S 16 45 W	4,845	Nelson 3.
			N 82 51 W	S 82 53 E	5,233	Black.
			S 8 09 W	N 8 09 E	3,798	Chef.
6	38 39 51.12	76 16 42.84	N 9 05 E	S 9 05 W	4,564	Nelson 3.
			N 84 56 W	S 84 59 E	5,890	Black.
			S 17 19 W	N 17 19 E	4,077	Chef.
7	38 39 29.28	76 16 17.40	S 30 52 W	N 30 51 E	3,678	Chef.
			S 44 30 E	N 44 29 W	4,863	Dot.
			N 42 12 E	S 42 13 W	5,694	Roys.

RED BUOY.

(*Outer Choptank River—Charts Nos. 36 and 37.*)

Corner of bar	Latitude	Longitude	True bearing: Forward	True bearing: Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 38 11.38	76 18 33.10	N 87 13 W	S 87 16 E	6,366	Sharps Island Light.
			S 67 19 W	N 67 17 E	5,679	Jere.
			S 72 44 E	N 72 44 W	1,783	Chef.
2	38 38 19.61	76 18 47.52	N 89 42 W	S 89 44 E	5,975	Sharps Island Light.
			S 63 05 W	N 63 03 E	5,449	Jere.
			S 68 50 E	N 68 49 W	2,235	Chef.
3	38 38 49.02	76 18 11.33	S 59 17 W	N 59 15 E	6,765	Jere.
			S 20 05 E	N 20 03 W	8,467	Brannock.
			S 32 04 E	N 32 04 W	2,123	Chef.
4	38 38 33.14	76 18 06.04	S 63 51 W	N 63 50 E	6,635	Jere.
			S 20 27 E	N 20 26 W	7,916	Brannock.
			S 38 00 E	N 38 00 W	1,603	Chef.

SPEDDEN.

(*Entrance Choptank River—Charts Nos. 36 and 37.*)

1	38 37 10.14	76 18 16.06	S 82 55 E	N 82 54 W	2,363	Cook Point Windmill.
			N 39 11 E	S 39 12 W	1,982	Chef.
			S 88 45 W	N 88 43 E	5,693	Jere.
2	38 37 31.92	76 18 50.81	S 79 48 W	N 79 46 E	4,848	Jere.
			S 36 26 E	N 36 25 W	6,653	Brannock.
			N 69 45 E	S 69 46 W	2,314	Chef.
3	38 37 45.32	76 19 01.38	S 73 44 W	N 73 43 E	4,680	Jere.
			S 36 05 E	N 36 04 W	7,183	Brannock.
			N 81 53 E	S 81 54 W	2,476	Chef.
4	38 37 49.56	76 18 55.20	S 72 40 W	N 72 38 E	4,876	Jere.
			S 34 22 E	N 34 21 W	7,207	Brannock.
			N 84 51 E	S 84 52 W	2,297	Chef.
5	38 37 32.40	76 18 24.66	S 80 54 W	N 80 52 E	5,533	Jere.
			S 31 16 E	N 31 14 W	6,281	Brannock.
			N 62 02 E	S 62 03 W	1,675	Chef.
6	38 37 13.42	76 18 10.90	S 79 41 E	N 79 40 W	2,245	Cook Point Windmill.
			N 38 03 E	S 38 03 W	1,810	Chef.
			S 87 41 W	N 87 39 E	5,832	Jere.

DUPONT.

(Chesapeake Bay—Off Tripps Bay—Charts Nos. 36 and 37.)

Corner of bar	Latitude	Longitude	True bearing: Forward	True bearing: Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 36 45.00	76 17 27.32	S 24 48 E	N 24 47 W	4,152	Brannock.
			N 62 11 E	S 62 12 W	1,193	Cook Point Windmill.
			N 0 54 W	S 0 54 E	2,384	Chef.
2	38 36 54.84	76 17 46.20	S 28 39 E	N 28 38 W	4,674	Brannock.
			N 81 46 E	S 81 47 W	1,572	Cook Point Windmill.
			N 12 42 E	S 12 42 W	2,103	Chef.
3	38 37 01.20	76 17 40.40	S 25 49 E	N 25 48 W	4,794	Brannock.
			N 89 34 E	S 89 35 W	1,402	Cook Point Windmill.
			N 9 32 E	S 9 32 W	1,863	Chef.
4	38 36 50.60	76 17 22.10	S 22 03 E	N 22 02 W	4,271	Brannock.
			N 68 09 E	S 68 09 W	989	Cook Point Windmill.
			N 4 34 W	S 4 34 E	2,201	Chef.

DIAMOND.

(Chesapeake Bay—Vicinity Sharps Island—Charts Nos. 36 and 37.)

1	38 36 10.60	76 20 02.68	S 65 58 E	N 65 55 W	6,410	Brannock.
			N 48 58 E	S 49 00 W	5,398	Chef.
			N 56 43 W	S 56 44 E	3,434	Jere.
2	38 36 39.40	76 20 43.16	S 62 38 E	N 62 36 W	7,797	Brannock.
			N 63 26 E	S 63 28 W	5,750	Chef.
			N 40 31 W	S 40 32 E	4,489	Sharps Island Light.
	Thence along county boundary as delineated on charts Nos. 36 and 37 to corner No. 3.					
3	38 36 58.72	76 20 27.22	S 56 56 E	N 56 53 W	7,761	Brannock.
			N 67 52 E	S 67 54 W	5,096	Chef.
			N 50 24 W	S 50 26 E	4,332	Sharps Island Light.
4	38 36 58.28	76 18 45.32	N 88 00 E	S 88 02 W	3,121	Cook Point Windmill.
			N 46 18 E	S 46 19 W	2,802	Chef.
			N 65 19 W	S 65 21 E	6,641	Sharps Island Light.
5	38 36 10.72	76 19 10.96	S 59 45 E	N 59 45 W	5,191	Brannock.
			N 37 23 E	S 37 23 W	4,454	Chef.
			N 66 05 W	S 66 06 E	4,637	Jere.

BRANNOCK.

(Chesapeake Bay Off Tripps Bay—Charts Nos. 36 and 37.)

1	38 36 09.83	76 17 22.46	S 31 58 E	N 31 58 W	3,046	Brannock.
			N 28 00 E	S 28 01 W	1,974	Cook Point Windmill.
			N 74 58 W	S 75 01 E	7,361	Jere.
2	38 36 20.52	76 17 36.43	S 33 57 E	N 33 56 W	3,550	Brannock.
			N 43 10 E	S 43 10 W	1,895	Cook Point Windmill.
			N 3 38 E	S 3 38 W	3,215	Chef.
3	38 36 33.12	76 17 29.46	S 28 05 E	N 28 05 W	3,819	Brannock.
			N 49 16 E	S 49 17 W	1,468	Cook Point Windmill.
			N 0 24 E	S 0 24 W	2,783	Chef.
4	38 36 17.62	76 17 08.98	S 23 49 E	N 23 48 W	3,111	Brannock.
			N 21 04 E	S 21 04 W	1,586	Cook Point Windmill.
			N 77 34 W	S 77 37 E	7,644	Jere.

MILL POINT.

(Chesapeake Bay—Off Tripps Bay—Charts Nos. 36 and 37.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 35 40.00	76 17 36.81	S 51 37 E	N 51 37 W	2,542	Brannock.
			N 25 25 E	S 25 26 W	3,043	Cook Point Windmill.
			N 66 35 W	S 66 38 E	7,333	Jere.
2	38 35 48.78	76 17 54.30	S 52 39 E	N 52 38 W	3,088	Brannock.
			N 35 49 E	S 35 49 W	3,024	Cook Point Windmill.
			S 67 17 W	N 67 15 E	6,793	Jere.
3	38 35 54.00	76 17 43.40	S 46 35 E	N 46 34 W	2,983	Brannock.
			N 33 03 E	S 33 03 W	2,715	Cook Point Windmill.
			N 69 34 W	S 69 36 E	6,995	Jere.
4	38 35 51.00	76 17 37.50	S 45 54 E	N 45 53 W	2,801	Brannock.
			N 29 08 E	S 29 08 W	2,722	Cook Point Windmill.
			N 69 15 W	S 69 17 E	7,176	Jere.

HILLS POINT.

(Chesapeake Bay—Off Entrance Little Choptank River—Charts Nos. 36 and 37.)

1	38 34 30.62	76 19 27.02	S 45 17 E	N 45 17 W	1,458	Robins.
			N 39 42 E	S 39 43 W	6,611	Cook Point Windmill.
			N 35 58 W	S 35 59 E	6,494	Jere.
2	38 34 51.17	76 20 00.00	S 48 00 E	N 47 59 W	2,569	Robins.
			N 32 45 E	S 32 46 W	7,397	Chef.
			N 32 48 W	S 32 50 E	5,428	Jere.
3	38 34 58.06	76 20 10.62	S 48 18 E	N 48 17 W	2,933	Robins.
			N 52 16 E	S 52 18 W	6,798	Cook Point Windmill.
			N 31 33 W	S 31 35 E	5,082	Jere.
4	38 35 24.58	76 19 14.73	S 14 01 E	N 14 01 W	2,932	Robins.
			N 50 02 E	S 50 03 W	5,086	Cook Point Windmill.
			N 50 18 W	S 50 20 E	5,379	Jere.
5	38 34 34.56	76 19 06.60	S 23 09 E	N 23 08 W	1,260	Robins.
			N 36 37 E	S 36 39 W	6,173	Cook Point Windmill.
			N 40 22 W	S 40 24 E	6,722	Jere.

HILLS POINT NORTH.

(Chesapeake Bay—Off Entrance Little Choptank River—Charts Nos. 36 and 37.)

1	38 34 24.41	76 21 25.20	S 22 18 E	N 22 18 W	5,815	James.
			S 78 54 E	N 78 52 W	4,244	Robins.
			N 07 10 W	S 07 10 E	5,508	Jere.
2	38 34 46.64	76 21 30.20	S 20 54 E	N 20 53 W	6,559	James.
			S 69 58 E	N 69 56 W	4,573	Robins.
			N 06 42 W	S 06 43 E	4,748	Jere.
3	38 35 01.72	76 20 25.88	S 51 21 E	N 51 20 W	3,321	Robins.
			N 38 37 E	S 38 39 W	7,507	Chef.
			N 28 12 W	S 28 13 E	4,775	Jere.
4	38 34 52.64	76 20 20.36	S 54 09 E	N 54 08 W	3,019	Robins.
			N 36 20 E	S 36 22 W	7,662	Chef.
			N 28 01 W	S 28 02 E	5,114	Jere.

HILLS POINT SOUTH.

(Chesapeake Bay—Off Entrance Little Choptank River—Charts Nos. 36 and 37.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 32 34.80	76 20 25.80	S 20 38 E	N 20 37 W	1,798	James.
			N 41 59 E	S 42 00 W	3,875	Robins.
			N 13 51 W	S 13 52 E	9,433	Jere.
2	38 33 49.83	76 21 52.36	S 34 43 E	N 34 41 W	5,128	James.
			N 85 56 E	S 85 58 W	4,896	Robins.
			N 0 16 E	S 0 16 W	6,628	Jere.
3	38 34 51.17	76 20 00.00	S 48 00 E	N 47 59 W	2,569	Robins.
			N 32 45 E	S 32 46 W	7,397	Chef.
			N 32 48 W	S 32 50 E	5,428	Jere.
4	38 34 00.00	76 20 16.80	S 4 57 E	N 4 57 W	4,573	James.
			N 89 50 E	S 89 51 W	2,353	Robins.
			N 21 39 W	S 21 40 E	6,766	Jere.
5	38 33 42.30	76 20 49.25	S 17 35 E	N 17 34 W	4,152	James.
			N 79 22 E	S 79 23 W	3,269	Robins.
			N 13 23 W	S 13 23 E	7,078	Jere.
6	38 33 03.70	76 20 13.40	S 6 33 E	N 6 33 W	2,675	James.
			N 49 55 E	S 49 56 W	2,958	Robins.
			N 17 32 W	S 17 33 E	8,586	Jere.

JAMES POINT.

(Chesapeake Bay—Vicinity James Point—Chart No. 36.)

1	38 31 41.59	76 22 01.56	S 40 31 E	N 40 30 W	4,170	Skid.
			N 88 00 E	S 88 01 W	3,171	James.
			N 47 39 E	S 47 41 W	6,937	Robins.
2	38 31 42.18	76 22 32.00	S 47 47 E	N 47 46 W	4,747	Skid.
			N 88 42 E	S 88 43 W	3,977	James.
			N 51 54 E	S 51 56 W	7,539	Robins.
3	38 32 42.94	76 23 10.08	S 40 49 E	N 40 47 W	6,923	Skid.
			S 68 33 E	N 68 31 W	5,355	James.
			N 69 27 E	S 69 29 W	7,414	Robins.
4	38 33 25.78	76 22 59.76	S 54 10 E	N 54 08 W	5,811	James.
			N 80 09 E	S 80 11 W	6,768	Robins.
			N 4 00 E	S 4 01 W	9,966	Sharps Island Light.
5	38 33 23.00	76 21 58.38	S 43 01 E	N 43 00 W	4,523	James.
			N 76 03 E	S 76 05 W	5,197	Robins.
			N 1 27 E	S 1 27 W	7,538	Jere.
6	38 32 34.36	76 21 42.68	S 58 00 E	N 57 59 W	3,148	James.
			N 57 59 E	S 58 01 W	5,457	Robins.
			N 1 24 W	S 1 24 E	9,179	Jere.

TRAVERS.

(Chesapeake Bay—Vicinity James Island—Charts Nos. 36 and 38.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 28 46.52	76 21 27.48	S 65 42 E	N 65 40 W	2,920	Travers 2.
			N 33 28 E	S 33 28 W	3,276	Skid.
			N 2 08 W	S 2 08 E	16,871	Jere.
2	38 29 39.12	76 22 04.88	S 50 50 E	N 50 48 W	4,711	Travers 2.
			N 71 04 E	S 71 05 W	2,957	Skid.
			N 1 23 E	S 1 23 W	15,090	Jere.
3	38 30 11.68	76 21 53.40	S 39 25 E	N 39 24 W	5,272	Travers 2
			S 86 50 E	N 86 49 W	2,497	Skid.
			N 0 15 E	S 0 15 W	13,986	Jere.
4	38 29 47.76	76 21 39.72	S 42 25 E	N 42 24 W	4,425	Travers 2.
			N 72 35 E	S 72 36 W	2,233	Skid.
			N 1 10 W	S 1 10 E	14,799	Jere.
5	38 29 33.16	76 21 43.34	S 48 00 E	N 47 59 W	4,146	Travers 2.
			N 62 28 E	S 62 29 W	2,511	Skid.
			N 0 47 W	S 0 47 E	15,291	Jere.
6	38 29 03.00	76 21 17.52	S 53 45 E	N 53 44 W	2,972	Travers 2.
			N 35 18 E	S 35 19 W	2,669	Skid.
			N 3 07 W	S 3 08 E	16,329	Jere.

MARSHALL.

(Oyster Creek—Charts Nos. 36, 37, and 38.)

1	38 29 21.71	76 19 59.20	N 44 12 E	S 44 14 W	7,422	Ragged Point 3.
			N 7 40 W	S 7 41 E	3,036	Rede.
			N 19 00 W	S 19 01 E	1,636	Skid.
2	38 29 28.62	76 20 07.94	N 46 44 E	S 46 46 W	7,423	Ragged Point 3.
			N 3 35 W	S 3 35 E	2,781	Rede.
			N 12 55 W	S 12 55 E	1,351	Skid.
3	38 29 27.76	76 19 56.36	N 44 54 E	S 44 56 W	7,224	Ragged Point 3.
			N 9 44 W	S 9 44 E	2,844	Rede.
			N 24 16 W	S 24 17 E	1,480	Skid.

OYSTER CREEK.

(*Little Choptank River—Charts Nos. 36, 37, and 38.*)

Corner of bar	Latitude	Longitude	True bearing: Forward	True bearing: Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 29 35.52	76 20 04.10	N 47 32 E	S 47 34 W	7,190	Ragged Point 3.
			N 6 11 W	S 6 11 E	2,557	Rede.
			N 20 26 W	S 20 26 E	1,154	Skid.
2	38 29 36.92	76 20 09.58	N 48 35 E	S 48 37 W	7,267	Ragged Point 3.
			N 2 59 W	S 2 59 E	2,499	Rede.
			N 14 00 W	S 14 00 E	1,065	Skid.
3	38 29 41.12	76 20 07.64	N 49 10 E	S 49 12 W	7,137	Ragged Point 3.
			N 4 25 W	S 4 25 E	2,361	Rede.
			N 19 07 W	S 19 07 E	945	Skid.
4	38 29 39.60	76 20 02.20	N 48 05 E	S 48 07 W	7,061	Ragged Point 3.
			N 7 43 W	S 7 43 E	2,427	Rede.
			N 25 40 W	S 25 40 E	1,048	Skid.

GRANGER.

(*Little Choptank River—Charts Nos. 36, 37, and 38.*)

1	38 30 00.84	76 19 49.14	N 85 52 E	S 85 51 W	2,653	Can.
			N 21 42 W	S 21 42 E	1,818	Rede.
			N 74 07 W	S 74 07 E	831	Skid.
2	38 30 19.44	76 19 57.56	S 81 22 E	N 81 23 W	2,902	Can.
			N 22 55 W	S 22 55 E	1,153	Rede.
			S 55 16 W	N 55 16 E	702	Skid.
3	38 30 22.59	76 19 46.56	N 55 58 E	S 56 00 W	5,840	Ragged Point 3.
			N 37 46 W	S 37 47 E	1,208	Rede.
			S 59 46 W	N 59 46 E	1,005	Skid.
4	38 30 04.26	76 19 38.61	N 88 10 E	S 88 11 W	2,369	Can.
			N 31 09 W	S 31 09 E	1,838	Rede.
			N 84 03 W	S 84 04 E	1,085	Skid.

CATORS.

(*Little Choptank River—Charts Nos. 36, 37, and 38.*)

1	38 30 11.58	76 19 20.12	S 84 48 E	N 84 47 W	1,885	Can.
			N 19 22 W	S 19 23 E	3,335	James.
			S 85 06 W	N 85 05 E	1,575	Skid.
2	38 30 19.24	76 19 35.42	S 79 21 E	N 79 20 W	2,323	Can.
			N 44 06 W	S 44 07 E	1,487	Rede.
			S 71 20 W	N 71 20 E	1,228	Skid.
3	38 30 40.44	76 19 12.60	N 31 00 W	S 31 00 E	2,535	James.
			N 77 50 W	S 77 50 E	1,678	Rede.
			S 57 55 W	N 57 55 E	2,087	Skid.
4	38 30 36.74	76 19 05.30	N 33 07 W	S 33 07 E	2,744	James.
			N 75 24 W	S 75 24 E	1,894	Rede.
			S 63 22 W	N 63 22 E	2,194	Skid.

HENPECK.

(Little Choptank River—Charts Nos. 36, 37, and 38.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 30 17.80	76 18 41.76	N 35 52 W	S 35 52 E	3,623	James.
			N 65 34 W	S 65 35 E	2,699	Rede.
			S 82 24 W	N 82 23 E	2,608	Skid.
2	38 30 26.75	76 18 49.68	N 35 59 W	S 35 59 E	3,256	James.
			N 70 04 W	S 70 05 E	2,391	Rede.
			S 74 47 W	N 74 46 E	2,462	Skid.
3	38 30 45.98	76 18 15.24	S 68 30 W	N 68 29 E	3,533	Skid.
			S 6 47 E	N 6 47 W	1,340	Can.
			S 62 21 E	N 62 20 W	2,221	Veith.
4	38 30 38.50	76 18 03.75	S 73 49 W	N 73 47 E	3,740	Skid.
			S 7 43 W	N 7 43 E	1,088	Can.
			S 64 55 E	N 64 54 W	1,835	Veith.

SLAUGHTER CREEK.

(Entrance Slaughter Creek—Charts Nos. 36, 37, and 38.)

1	38 29 57.14	76 16 10.23	N 32 57 E	S 32 57 W	1,009	Pov.
			N 65 23 W	S 65 24 E	1,480	Veith.
			S 22 52 W	N 22 52 E	704	Torrey.
2	38 30 06.63	76 16 36.65	N 67 07 E	S 67 08 W	1,356	Pov.
			N 65 20 W	S 65 20 E	711	Veith.
			S 32 18 W	N 32 18 E	886	Moore.
3	38 30 35.68	76 16 19.76	N 12 43 W	S 12 43 E	2,899	Ragged Point 3.
			S 57 59 W	N 57 59 E	1,289	Veith.
			S 0 37 W	N 0 37 E	1,949	Torrey.
4	38 30 06.76	76 16 03.56	N 15 40 W	S 15 41 E	3,950	Ragged Point 3.
			N 79 08 W	S 79 09 E	1,550	Veith.
			S 60 51 W	N 60 51 E	1,546	Moore.

HOOPER.

(Entrance Slaughter Creek—Charts Nos. 36, 37, and 38.)

1	38 30 06.63	76 16 36.65	N 67 07 E	S 67 08 W	1,356	Pov.
			N 65 20 W	S 65 20 E	711	Veith.
			S 32 18 W	N 32 18 E	886	Moore.
2	38 31 09.96	76 16 54.94	S 4 59 W	N 4 59 E	1,846	Veith.
			S 47 08 E	N 47 08 W	2,365	Pov.
			N 9 58 E	S 9 59 W	1,697	Ragged Point 3.
3	38 30 53.60	76 16 11.60	S 45 29 W	N 45 28 E	1,836	Veith.
			S 28 59 E	N 28 59 W	1,208	Pov.
			N 63 35 E	S 63 36 W	2,439	Wool.
4	38 30 35.68	76 16 19.76	N 12 43 W	S 12 43 E	2,899	Ragged Point 3.
			S 57 59 W	N 57 59 E	1,289	Veith.
			S 0 37 W	N 0 37 E	1,949	Torrey.

NINE ACRES.

(Little Choptank River—Charts Nos. 36 and 37.)

Corner of bar	Latitude	Longitude	True bearing: Forward	True bearing: Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 30 30.04	76 17 50.80	S 31 40 W	N 31 40 E	932	Can.
			S 69 31 E	N 69 30 W	1,409	Veith.
			N 30 27 E	S 30 27 W	3,501	Ragged Point 3.
2	38 30 38.50	76 18 03.75	S 73 49 W	N 73 47 E	3,740	Skid.
			S 7 43 W	N 7 43 E	1,088	Can.
			S 64 55 E	N 64 54 W	1,835	Veith.
3	38 30 45.98	76 18 15.24	S 68 30 W	N 68 29 E	3,533	Skid.
			S 6 47 E	N 6 47 W	1,340	Can.
			S 62 21 E	N 62 20 W	2,221	Veith.
4	38 31 04.40	76 18 13.18	S 60 10 W	N 60 09 E	3,853	Skid.
			S 3 03 E	N 3 03 W	1,954	Can.
			S 49 11 E	N 49 10 W	2,527	Veith.
5	38 31 25.00	76 17 20.60	S 61 07 W	N 61 06 E	5,408	Skid.
			S 12 29 E	N 12 29 W	2,403	Veith.
			S 48 46 E	N 48 45 W	3,210	Pov.
6	38 30 55.10	76 17 24.07	S 36 10 W	N 36 10 E	2,030	Can.
			S 24 33 E	N 24 33 W	1,472	Veith.
			S 66 09 E	N 66 08 W	2,739	Pov.

LITTLE CHOPTANK.

(Little Choptank River—Charts Nos. 36 and 37.)

1	38 30 49.58	76 18 43.36	N 48 07 W	S 48 08 E	2,794	James.
			N 88 56 W	S 88 54 E	2,415	Rede.
			S 60 53 W	N 60 52 E	2,910	Skid.
2	38 31 00.84	76 18 59.66	N 47 58 W	S 47 59 E	2,219	James.
			S 80 25 W	N 80 24 E	2,011	Rede.
			S 49 36 W	N 49 36 E	2,771	Skid.
3	38 31 28.62	76 18 41.03	S 43 37 W	N 43 36 E	3,775	Skid.
			S 16 55 E	N 16 55 W	2,894	Can.
			S 63 47 E	N 63 45 W	5,067	Pov.
4	38 31 04.40	76 18 13.18	S 60 10 W	N 60 09 E	3,853	Skid.
			S 3 03 E	N 3 03 W	1,954	Can.
			S 49 11 E	N 49 10 W	2,527	Veith.

RAGGED POINT.

(Little Choptank River—Charts Nos. 36 and 37.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 31 25.95	76 17 50.96	S 56 05 W	N 56 04 E	4,737	Skid.
			S 29 06 E	N 29 06 W	2,722	Veith.
			N 57 30 E	S 57 29 W	2,107	Ragged Point 3.
2	38 31 27.27	76 18 23.92	S 48 42 W	N 48 40 E	4,070	Skid.
			S 42 12 E	N 42 11 W	3,271	Veith.
			N 67 41 E	S 67 42 W	2,865	Ragged Point 3.
3	38 32 16.42	76 18 21.70	S 77 36 E	N 77 35 W	2,654	Ragged Point 3.
			N 11 13 W	S 11 13 E	3,568	Robins.
			S 68 10 W	N 68 09 E	2,859	James.
4	38 32 37.45	76 17 20.97	N 39 31 W	S 39 31 E	3,617	Robins.
			S 67 25 W	N 67 23 E	4,616	James.
			S 37 34 E	N 37 34 W	1,613	Ragged Point 3.
5	38 32 33.58	76 17 05.86	N 42 46 W	S 42 47 E	3,979	Robins.
			S 70 36 W	N 70 34 E	4,944	James.
			S 26 56 E	N 26 56 W	1,287	Ragged Point 3.
6	38 32 01.32	76 17 19.42	S 86 21 E	N 86 21 W	945	Ragged Point 3.
			N 30 18 W	S 30 19 E	4,643	Robins.
			S 82 39 W	N 82 38 E	4,339	James.

PEANUT HILL.

(Little Choptank River—Charts Nos. 36 and 37.)

1	38 32 16.42	76 18 21.70	S 77 36 E	N 77 35 W	2,654	Ragged Point 3.
			N 11 13 W	S 11 13 E	3,568	Robins.
			S 68 10 W	N 68 09 E	2,859	James.
2	38 32 43.02	76 19 38.07	S 17 51 W	N 17 50 E	2,059	James.
			S 72 22 E	N 72 20 W	4,842	Ragged Point 3.
			N 27 02 E	S 27 03 W	2,922	Robins.
3	38 32 55.00	76 18 55.58	S 36 37 W	N 36 36 E	2,945	James.
			S 61 48 E	N 61 47 W	3,959	Ragged Point 3.
			N 5 17 E	S 5 17 W	2,208	Robins.
4	38 32 46.79	76 18 49.44	S 42 36 W	N 42 35 E	2,836	James.
			S 64 25 E	N 64 24 W	3,689	Ragged Point 3.
			N 00 57 E	S 00 57 W	2,476	Robins.
5	38 32 47.28	76 18 09.44	N 22 29 W	S 22 30 E	2,662	Robins.
			S 54 46 W	N 54 45 E	3,647	James.
			S 54 37 E	N 54 36 W	2,781	Ragged Point 3.
6	38 32 26.44	76 18 12.20	S 68 49 E	N 68 48 W	2,510	Ragged Point 3.
			N 16 39 W	S 16 39 E	3,300	Robins.
			S 64 15 W	N 64 14 E	3,226	James.

RAGGED POINT FLATS.

(*Little Choptank River—Charts Nos. 36 and 37.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 32 33.58	76 17 05.86	N 42 46 W	S 42 47 E	3,979	Robins.
			S 70 36 W	N 70 34 E	4,944	James.
			S 26 56 E	N 26 56 W	1,287	Ragged Point 3.
2	38 32 37.45	76 17 20.97	N 39 31 W	S 39 31 E	3,617	Robins.
			S 67 25 W	N 67 23 E	4,616	James.
			S 37 34 E	N 37 34 W	1,613	Ragged Point 3.
3	38 33 08.88	76 17 33.50	N 48 42 W	S 48 43 E	2,622	Robins.
			S 54 13 W	N 54 12 E	4,845	James.
			S 29 22 E	N 29 21 W	2,683	Ragged Point 3.
4	38 33 35.79	76 17 19.95	N 70 32 W	S 70 32 E	2,469	Robins.
			S 48 55 W	N 48 53 E	5,691	James.
			S 16 25 E	N 16 25 W	3,384	Ragged Point 3.
5	38 32 55.80	76 16 56.50	N 53 38 W	S 53 39 E	3,662	Robins.
			S 64 02 W	N 64 00 E	5,463	James.
			S 10 01 E	N 10 01 W	1,927	Ragged Point 3.

COW ISLAND.

(*Little Choptank River—Charts Nos. 36 and 37.*)

1	38 33 03.34	76 18 15.64	N 24 00 W	S 24 01 E	2,100	Robins.
			S 46 46 W	N 46 45 E	3,863	James.
			S 48 30 E	N 48 29 W	3,247	Ragged Point 3.
2	38 33 12.32	76 18 18.86	N 25 29 W	S 25 31 E	1,789	Robins.
			S 42 47 W	N 42 46 E	4,018	James.
			S 45 44 E	N 45 43 W	3,516	Ragged Point 3.
3	38 33 21.90	76 17 51.22	N 49 17 W	S 49 17 E	1,981	Robins.
			S 46 37 W	N 46 38 E	4,763	James.
			S 32 43 E	N 32 43 W	3,294	Ragged Point 3.
4	38 33 08.88	76 17 33.50	N 48 42 W	S 48 43 E	2,622	Robins.
			S 54 13 W	N 54 12 E	4,845	James.
			S 29 22 E	N 29 21 W	2,683	Ragged Point 3.

BALD EAGLE.

(Little Choptank River—Charts Nos. 36 and 37.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 33 08.88	76 17 33.50	N 48 42 W	S 48 42 E	2,622	Robins.
			S 54 13 W	N 54 12 E	4,845	James.
			S 29 22 E	N 29 21 W	2,683	Ragged Point 3.
2	38 33 21.90	76 17 51.22	N 49 17 W	S 49 17 E	1,981	Robins.
			S 46 37 W	N 46 38 E	4,763	James.
			S 32 43 E	N 32 43 W	3,294	Ragged Point 3.
3	38 33 46.72	76 17 52.96	N 72 38 W	S 72 39 E	1,524	Robins.
			S 39 44 W	N 39 43 E	5,343	James.
			S 26 52 E	N 26 51 W	4,052	Ragged Point 3.
4	38 33 35.79	76 17 19.95	N 70 32 W	S 70 33 E	2,469	Robins.
			S 48 55 W	N 48 53 E	5,691	James.
			S 16 25 E	N 16 25 W	3,384	Ragged Point 3.

CORNERS WHARF.

(Outer Choptank River—Chart No. 37.)

1	38 36 44.62	76 13 08.16	N 85 54 E	S 85 54 W	1,645	Corner.
			N 69 52 E	S 69 54 W	4,794	Large Water Tank.
			N 37 28 W	S 37 28 E	2,626	Dot.
2	38 36 55.18	76 13 39.80	S 84 30 E	N 84 29 W	2,489	Corner.
			N 76 23 E	S 76 25 W	5,492	Large Water Tank.
			N 23 45 W	S 23 45 E	1,888	Dot.
3	38 37 17.05	76 13 31.38	S 66 36 E	N 66 35 W	2,457	Corner.
			N 83 48 E	S 83 50 W	5,145	Large Water Tank.
			N 44 47 W	S 44 47 E	1,395	Dot.
4	38 37 04.99	76 12 59.40	S 68 00 E	N 68 00 W	1,519	Corner.
			N 77 17 E	S 77 19 W	4,377	Large Water Tank.
			N 52 38 W	S 52 38 E	2,301	Dot.

LOGANS HILL.

(Outer Choptank River—Chart No. 37.)

1	38 38 19.84	76 12 56.18	S 69 32 E	N 69 31 W	4,466	Large Water Tank.
			N 54 34 E	S 54 35 W	3,590	Choptank River Light.
			N 20 44 E	S 20 44 W	4,102	Benoni 2.
2	38 39 05.04	76 13 38.98	S 68 56 W	N 68 54 E	6,512	Chef.
			S 16 26 W	N 16 25 E	2,764	Dot.
			N 82 11 E	S 82 13 W	4,094	Choptank River Light.
	Thence along county boundary as delineated on Chart No. 37 to corner No. 3.					
3	38 38 48.40	76 11 45.22	S 49 58 E	N 49 57 W	3,479	Castle.
			N 43 09 E	S 43 10 W	1,533	Choptank River Light.
			N 8 24 W	S 8 24 E	2,905	Benoni 2.

TODD POINT.

(Outer Choptank River—Chart No. 37.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 37 44.92	76 15 34.76	N 83 08 W	S 83 09 E	3,037	Chef.
			S 52 43 W	N 52 42 E	2,417	Cook Point Windmill.
			N 88 44 E	S 88 45 W	2,281	Dot.
2	38 38 08.08	76 16 12.40	S 78 18 W	N 78 17 E	2,061	Chef.
			S 22 26 W	N 22 26 E	2,429	Cook Point Windmill.
			S 77 25 E	N 77 24 W	3,357	Dot.
3	38 38 27.26	76 16 09.52	N 63 37 W	S 63 40 E	7,532	Black.
			S 63 03 W	N 63 03 E	2,350	Chef.
			S 66 42 E	N 66 41 W	3,484	Dot.
4	38 38 25.41	76 15 29.22	S 72 24 W	N 72 23 E	3,317	Chef.
			S 58 22 E	N 58 21 W	2,508	Dot.
			N 74 49 E	S 74 52 W	7,224	Choptank River Light.
5	38 38 59.43	76 15 27.58	S 56 08 W	N 56 07 E	3,859	Chef.
			S 40 20 E	N 40 20 W	3,230	Dot.
			N 83 52 E	S 83 55 W	6,968	Choptank River Light.
6	38 39 04.40	76 16 03.56	N 73 08 W	S 73 11 E	7,216	Black.
			S 44 12 W	N 44 11 E	3,232	Chef.
			S 49 10 E	N 49 09 W	4,022	Dot.
7	38 39 22.52	76 16 00.60	N 78 01 W	S 78 04 E	7,139	Black.
			S 38 31 W	N 38 30 E	3,743	Chef.
			S 42 27 E	N 42 26 W	4,392	Dot.
8	38 39 15.33	76 15 07.00	S 54 23 W	N 54 21 E	4,612	Chef.
			S 27 17 E	N 27 17 W	3,374	Dot.
			N 88 08 E	S 88 10 W	6,388	Choptank River Light.
9	38 39 58.32	76 15 41.88	N 41 38 E	S 41 39 W	4,344	Roys.
			N 11 48 W	S 11 48 E	4,356	Nelson 3.
			N 63 59 W	S 64 01 E	6,387	Bar.
Thence along county boundary as delineated on Chart No. 37 to corner No. 10.						
10	38 39 08.00	76 13 46.22	N 83 52 E	S 83 54 W	4,273	Choptank River Light.
			N 51 26 E	S 51 27 W	3,549	Benoni 2.
			N 1 59 W	S 1 59 E	4,940	Roys.
11	38 38 27.40	76 13 47.20	S 79 39 W	N 79 36 E	5,957	Chef.
			S 22 13 W	N 22 12 E	1,493	Dot.
			S 38 36 E	N 38 35 W	4,285	Corner.

ALONG SHORE.

(Little Choptank River—Charts Nos. 37 and 38.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 30 00.96	76 15 45.59	N 8 14 W	S 8 14 E	725	Pov.
			N 21 06 W	S 21 07 E	4,286	Ragged Point 3.
			S 73 01 W	N 73 00 E	1,909	Moore.
2	38 30 12.16	76 15 58.60	N 35 16 E	S 35 16 W	417	Pov.
			N 18 19 W	S 18 19 E	3,813	Ragged Point 3.
			S 57 45 W	N 57 44 E	1,752	Moore.
3	38 30 29.02	76 15 52.95	N 23 50 W	S 23 50 E	3,336	Ragged Point 3.
			S 75 43 W	N 75 43 E	1,860	Veith.
			S 47 20 W	N 47 19 E	2,219	Moore.
4	38 30 35.38	76 15 37.42	N 31 48 W	S 31 49 E	3,339	Ragged Point 3.
			S 73 05 W	N 73 04 E	2,315	Veith.
			S 49 56 W	N 49 55 E	2,669	Moore.
5	38 31 14.82	76 15 16.20	N 12 37 E	S 12 37 W	2,264	Hudson.
			N 57 00 W	S 57 01 E	2,768	Ragged Point 3.
			S 26 28 W	N 26 28 E	1,979	Pov.
6	38 31 13.00	76 15 10.38	N 8 31 E	S 8 31 W	2,295	Hudson.
			N 57 38 W	S 57 39 E	2,931	Ragged Point 3.
			S 31 13 W	N 31 13 E	2,000	Pov.
Thence from corner No. 6 along the mean low water line of the shore to corner No. 7, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.						
7	38 30 33.14	76 15 35.20	N 31 58 W	S 31 59 E	3,434	Ragged Point 3.
			S 75 16 W	N 75 15 E	2,351	Veith.
			S 51 59 W	N 51 58 E	2,662	Moore.
8	38 30 22.26	76 15 49.51	N 19 04 E	S 19 05 W	4,213	Hudson.
			S 83 04 W	N 83 03 E	1,908	Veith.
			S 28 49 W	N 28 48 E	1,707	Torrey.
9	38 30 13.42	76 15 53.64	N 20 23 W	S 20 24 E	3,818	Ragged Point 3.
			N 87 51 W	S 87 51 E	1,786	Veith.
			S 58 47 W	N 58 46 E	1,886	Moore.
Thence from corner No. 9 along the mean low water line of the shore to corner No. 10, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.						
10	38 30 05.66	76 15 45.58	N 10 32 W	S 10 32 E	570	Pov.
			N 21 54 W	S 21 54 E	4,138	Ragged Point 3.
			S 68 36 W	N 68 35 E	1,962	Moore.

SUSQUEHANNA.

(*Little Choptank River—Chart No. 37.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 31 01.62	76 15 35.10	N 20 33 E	S 20 33 W	2,835	Hudson.
			N 43 00 W	S 43 01 E	2,669	Ragged Point 3.
			S 16 03 W	N 16 03 E	1,381	Pov.
2	38 31 15.74	76 15 54.62	N 34 46 E	S 34 46 W	2,651	Hudson.
			N 41 26 W	S 41 27 E	1,970	Ragged Point 3.
			S 40 51 W	N 40 50 E	2,689	Veith
3	38 31 48.07	76 15 17.22	S 16 28 W	N 16 28 E	3,017	Pov.
			S 44 42 E	N 44 41 W	1,058	Wool.
			N 25 36 E	S 25 36 W	1,206	Hudson.
4	38 31 36.00	76 15 02.28	S 26 43 W	N 26 43 E	2,784	Pov.
			S 45 16 E	N 45 16 W	489	Wool.
			N 61 53 E	S 61 54 W	2,935	Mac.

LITTLE POLLARD.

(*Little Choptank River—Chart No. 37.*)

1	38 31 56.50	76 16 08.94	S 09 12 E	N 09 12 W	3,220	Pov.
			S 63 53 E	N 63 52 W	2,353	Wool.
			N 66 59 E	S 66 59 W	2,055	Hudson.
2	38 32 01.68	76 16 17.82	S 12 37 E	N 12 36 W	3,435	Pov.
			S 62 44 E	N 62 43 W	2,642	Wool.
			N 73 31 E	S 73 32 W	2,217	Hudson.
3	38 32 13.23	76 16 15.16	S 10 18 E	N 10 17 W	3,804	Pov.
			S 54 55 E	N 54 54 W	2,784	Wool.
			N 83 21 E	S 83 22 W	2,070	Hudson.
4	38 32 29.67	76 15 49.92	S 22 35 W	N 22 34 E	4,904	Veith.
			S 36 46 E	N 36 45 W	2,689	Wool.
			S 57 21 E	N 57 20 W	3,426	Tobacco Stick.
5	38 32 20.52	76 15 39.58	S 67 26 W	N 67 25 E	1,843	Ragged Point 3.
			S 35 54 E	N 35 53 W	2,278	Wool.
			S 89 41 E	N 89 41 W	1,113	Hudson.

CASON.

(*Little Choptank River—Chart No. 37.*)

1	38 31 30.20	76 14 38.82	N 51 15 E	S 51 16 W	2,523	Mac.
			N 16 21 W	S 16 21 E	1,762	Hudson.
			N 73 23 W	S 73 24 E	3,456	Ragged Point 3.
2	38 32 01.19	76 15 08.99	S 88 43 W	N 88 42 E	2,513	Ragged Point 3.
			S 23 45 E	N 23 45 W	1,305	Wool.
			S 63 45 E	N 63 45 W	2,007	Tobacco Stick.
3	38 32 13.16	76 14 37.54	S 10 54 W	N 10 54 E	1,627	Wool.
			S 36 51 E	N 36 50 W	1,613	Tobacco Stick.
			N 86 09 E	S 86 10 W	1,938	Mac.
4	38 31 50.58	76 14 17.50	S 45 06 W	N 45 05 E	1,184	Wool.
			S 39 30 E	N 39 29 W	686	Tobacco Stick.
			N 57 33 E	S 57 34 W	1,662	Mac.

TOBACCO STICK.

(*Little Choptank River—Chart No. 37.*)

Corner of bar.	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 31 30.20	76 14 38.82	N 51 15 E	S 51 16 W	2,523	Mac.
			N 16 21 W	S 16 21 E	1,762	Hudson.
			N 73 23 W	S 73 24 E	3,456	Ragged Point 3.
2	38 31 50.58	76 14 17.50	S 45 06 W	N 45 05 E	1,184	Wool.
			S 39 30 E	N 39 29 W	686	Tobacco Stick.
			N 57 33 E	S 57 34 W	1,662	Mac.
3	38 31 57.85	76 13 53.18	N 49 33 E	S 49 33 W	997	Mac.
			N 66 01 W	S 66 02 E	1,866	Hudson.
			S 53 54 W	N 53 54 E	1,835	Wool.
4	38 31 43.25	76 13 07.52	N 66 47 W	S 66 48 E	3,171	Hudson.
			S 78 44 W	N 78 44 E	1,445	Tobacco Stick.
			S 3 40 W	N 3 39 E	2,479	Madison Southern M. E. Church Spire.

BUTTERPOT.

(*Little Choptank River—Chart No. 37.*)

1	38 32 06.04	76 13 46.40	S 20 15 W	N 20 15 E	1,120	Tobacco Stick.
			N 57 23 E	S 57 23 W	688	Mac.
			S 15 57 W	N 15 57 E	1,448	Greenwell.
2	38 32 06.26	76 14 05.62	S 6 33 E	N 6 33 W	1,065	Tobacco Stick.
			N 71 33 E	S 71 33 W	1,147	Mac.
			N 4 35 E	S 4 35 W	1,389	Greenwell.
3	38 32 23.40	76 14 05.62	S 4 15 E	N 4 15 W	1,640	Tobacco Stick.
			S 78 50 E	N 78 50 W	1,109	Mac.
			N 41 26 E	S 41 26 W	1,861	Ross.
4	38 32 23.22	76 13 33.90	N 69 42 E	S 69 42 W	1,719	Swep.
			N 15 37 E	S 15 37 W	1,456	Ross.
			N 41 54 W	S 41 54 E	1,091	Greenwell.

HUDSON.

(*Little Choptank River—Hudson Creek—Chart No. 37.*)

1	38 32 16.77	76 14 22.62	S 22 15 W	N 22 14 E	1,857	Wool.
			S 22 03 E	N 22 02 W	1,524	Tobacco Stick.
			N 89 40 E	S 89 41 W	1,539	Mac.
2	38 32 39.68	76 14 56.00	S 3 35 W	N 3 35 E	654	Hudson.
			N 81 09 E	S 81 10 W	599	Louise.
			N 07 04 W	S 07 04 E	639	Jenifer.
3	38 32 43.46	76 14 50.61	S 13 15 W	N 13 15 E	801	Hudson.
			S 84 20 E	N 84 20 W	452	Louise.
			N 22 01 E	S 22 01 W	483	Carrie.
4	38 32 30.09	76 14 32.40	S 76 13 E	N 76 13 W	1,850	Mac.
			N 4 36 W	S 4 36 E	417	Louise.
			S 63 43 W	N 63 43 E	743	Hudson.
5	38 32 23.40	76 14 05.62	S 4 15 E	N 4 15 W	1,640	Tobacco Stick.
			S 78 50 E	N 78 50 W	1,109	Mac.
			N 41 26 E	S 41 26 W	1,861	Ross.

ROSS.

(Little Choptank River—Hudson Creek—Chart No. 37.)

Corner of bar	Latitude	Longitude	True bearing: Forward	True bearing: Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 32 49.24	76 14 47.65	S 58 08 E	N 58 08 W	436	Louise.
			N 22 07 E	S 22 07 W	273	Carrie.
			N 43 50 W	S 43 50 E	433	Jenifer.
2	38 32 49.40	76 14 53.20	S 65 31 E	N 65 30 W	569	Louise.
			N 45 12 E	S 45 13 W	352	Carrie.
			N 26 28 W	S 26 28 E	343	Jenifer.
3	38 33 27.42	76 14 53.12	S 35 08 W	N 35 08 E	230	Mitchell.
			S 12 55 W	N 12 54 E	717	Henry.
			S 76 55 E	N 76 55 W	252	Back.
4	38 33 27.04	76 14 48.46	S 55 34 W	N 55 34 E	309	Mitchell.
			S 22 27 W	N 22 27 E	743	Henry.
			N 70 04 E	S 70 04 W	129	Back.

McKEILS POINT.

(Little Choptank River—Chart No. 37.)

1	38 32 23.22	76 13 33.90	N 69 42 E	S 69 42 W	1,719	Swep.
			N 15 37 E	S 15 37 W	1,456	Ross.
			N 41 54 W	S 41 54 E	1,091	Greenwell.
2	38 32 23.40	76 14 05.62	S 4 15 E	N 4 15 W	1,640	Tobacco Stick.
			S 78 50 E	N 78 50 W	1,109	Mac.
			N 41 26 E	S 41 26 W	1,861	Ross.
3	38 32 46.11	76 13 59.68	S 43 30 E	N 43 30 W	1,352	Mac.
			N 85 27 E	S 85 28 W	1,787	Town.
			N 71 23 E	S 71 24 W	2,709	David.
4	38 32 49.54	76 13 19.24	N 87 51 E	S 87 51 W	711	Town.
			N 0 23 E	S 0 23 W	514	Ross.
			S 86 10 W	N 86 10 E	1,120	Greenwell.
5	38 32 33.64	76 13 10.42	N 76 06 E	S 76 06 W	1,020	Swep.
			N 12 22 W	S 12 22 E	1,075	Ross.
			N 71 09 W	S 71 09 E	1,427	Greenwell.

TOWN.

(*Little Choptank River—Chart No. 37.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 32 33.64	76 13 10.42	N 76 06 E	S 76 06 W	1,020	Swep.
			N 12 22 W	S 12 22 E	1,075	Ross.
			N 71 09 W	S 71 09 E	1,427	Greenwell.
2	38 32 49.54	76 13 19.24	N 87 51 E	S 87 51 W	711	Town.
			N 0 23 E	S 0 23 W	514	Ross.
			S 86 10 W	N 86 10 E	1,120	Greenwell.
3	38 33 06.94	76 12 53.07	N 78 31 E	S 78 31 W	820	David.
			N 17 26 E	S 17 26 W	668	Lee.
			S 83 58 W	N 83 58 E	693	Ross.
4	38 32 49.12	76 12 54.85	N 11 17 E	S 11 17 W	1,263	Lee.
			N 50 35 W	S 50 35 E	832	Ross.
			S 88 02 W	N 88 01 E	1,765	Greenwell.
5	38 32 40.16	76 12 55.80	N 82 06 W	S 82 07 E	1,759	Greenwell.
			S 18 29 W	N 18 29 E	691	Laney.
			S 40 29 E	N 40 29 W	1,129	Hugh.

BRUMELL.

(*Little Choptank River—Chart No. 37.*)

1	38 32 49.12	76 12 54.85	N 11 17 E	S 11 17 W	1,263	Lee.
			N 50 35 W	S 50 35 E	832	Ross.
			S 88 02 W	N 88 01 E	1,765	Greenwell.
2	38 33 06.94	76 12 53.07	N 78 31 E	S 78 31 W	820	David.
			N 17 26 E	S 17 26 W	668	Lee.
			S 83 58 W	N 83 58 E	693	Ross.
3	38 33 22.38	76 12 59.57	S 9 56 E	N 9 56 W	1,098	Town.
			N 72 36 E	S 72 36 W	390	Lee.
			N 10 07 W	S 10 07 E	936	Phil.
4	38 33 30.84	76 12 18.30	S 76 50 W	N 76 49 E	740	Lee.
			S 10 19 W	N 10 19 E	654	David.
			S 62 56 E	N 62 56 W	1,045	Layton.
5	38 33 40.34	76 12 08.92	S 20 47 W	N 20 47 E	1,030	David.
			S 40 37 E	N 40 37 W	1,049	Layton.
			S 71 50 E	N 71 50 W	1,567	Adam.
6	38 33 40.06	76 11 51.16	S 41 14 W	N 41 13 E	1,267	David.
			S 15 07 E	N 15 07 W	815	Layton.
			S 64 49 E	N 64 49 W	1,125	Adam.
7	38 33 24.39	76 12 22.72	N 85 22 W	S 85 22 E	606	Lee.
			S 0 00 W	N 0 00 E	425	David.
			S 76 09 E	N 76 09 W	1,079	Layton.
8	38 33 06.62	76 12 30.04	N 45 04 E	S 45 05 W	1,603	Solomon.
			N 32 18 W	S 32 18 E	767	Lee.
			S 87 16 W	N 87 15 E	1,301	Ross.

CHERRY ISLAND.

(Little Choptank River—Chart No. 37.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 33 37.86	76 12 49.59	N 34 55 E	S 34 55 W	268	Cherry Island Water Tank.
			N 47 01 W	S 47 01 E	585	Phil.
			S 35 01 W	N 35 01 E	1,363	Ross.
2	38 33 43.24	76 13 00.47	S 20 50 W	N 20 50 E	1,388	Ross.
			S 34 01 E	N 34 01 W	709	Lee.
			N 43 26 E	S 43 26 W	821	Dupont.
3	38 33 55.38	76 12 59.62	S 20 34 E	N 20 33 W	1,064	Lee.
			S 48 24 E	N 48 24 W	560	Cherry Island Water Tank.
			N 70 57 E	S 70 58 W	573	Dupont.
4	38 33 52.58	76 12 50.28	S 7 58 E	N 7 58 W	911	Lee.
			S 31 43 E	N 31 43 W	326	Cherry Island Water Tank.
			N 46 20 E	S 46 20 W	408	Dupont.
5	38 33 45.11	76 12 53.06	N 34 38 E	S 34 38 W	647	Dupont.
			N 65 08 W	S 65 08 E	371	Phil.
			S 26 54 W	N 26 53 E	1,524	Ross.
6	38 33 42.06	76 12 46.30	N 63 27 W	S 63 27 E	576	Phil.
			S 34 39 W	N 34 39 E	1,528	Ross.
			S 2 11 E	N 2 11 W	548	Lee.

JONES.

(Little Choptank River—Chart No. 37.)

1	38 33 19.34	76 11 33.10	N 45 53 E	S 45 53 W	1,013	Seth.
			N 27 56 W	S 27 56 E	795	Solomon.
			N 83 28 W	S 83 28 E	1,929	Lee.
2	38 33 28.68	76 11 35.12	N 63 27 E	S 63 27 W	873	Seth.
			N 39 27 W	S 39 27 E	503	Solomon.
			S 65 42 W	N 65 41 E	1,382	David.
3	38 33 29.68	76 11 28.34	N 59 20 E	S 59 20 W	699	Seth.
			N 54 36 W	S 54 37 E	611	Solomon.
			S 41 53 W	N 41 53 E	586	Layton.
4	38 33 20.58	76 11 26.24	N 39 26 E	S 39 26 W	860	Seth.
			N 39 59 W	S 39 59 E	863	Solomon.
			S 73 49 W	N 73 49 E	466	Layton.

PATTISON.

(*Little Choptank River—Chart No. 37.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 33 41.76	76 10 41.62	S 88 15 W	N 88 14 E	1,737	Solomon.
			S 85 25 W	N 85 25 E	638	Seth.
			S 56 55 W	N 56 55 E	982	Adam.
2	38 33 44.34	76 10 50.16	S 84 41 W	N 84 41 E	1,516	Solomon.
			S 71 22 W	N 71 21 E	433	Seth.
			S 43 46 W	N 43 46 E	863	Adam.
3	38 33 51.96	76 10 42.26	S 77 00 W	N 76 59 E	1,764	Solomon.
			S 57 28 W	N 57 28 E	734	Seth.
			S 42 29 W	N 42 29 E	1,193	Adam.

BARN POINT.

(*Little Choptank River—Fishing Creek—Chart No. 37.*)

1	38 32 06.16	76 12 59.56	S 63 01 E	N 63 01 W	1,222	Doctor.
			N 70 55 E	S 70 55 W	881	Hugh.
			N 30 57 E	S 30 58 W	1,367	Swep.
2	38 32 29.30	76 12 59.39	S 39 06 E	N 39 05 W	1,719	Doctor.
			N 60 44 E	S 60 44 W	801	Swep
			N 23 35 W	S 23 35 E	1,305	Ross.
3	38 32 30.62	76 12 25.70	N 50 50 W	S 50 51 E	1,824	Ross.
			S 71 48 W	N 71 48 E	1,070	Laney.
			S 32 39 W	N 32 39 E	1,456	Eleanor.
4	38 32 07.38	76 12 37.00	N 5 20 E	S 5 20 W	1,135	Swep.
			N 57 55 W	S 57 56 E	846	Laney.
			S 47 44 W	N 47 44 E	657	Eleanor.

SALTWORK.

(*Little Choptank River—Fishing Creek—Chart No. 37.*)

1	38 31 54.70	76 12 16.39	S 33 34 E	N 33 34 W	897	Tom.
			N 63 44 E	S 63 45 W	597	Etta.
			N 24 45 W	S 24 45 E	743	Hugh.
2	38 32 00.92	76 12 40.06	N 87 19 E	S 87 19 W	1,165	Etta.
			N 34 13 E	S 34 13 W	562	Hugh.
			N 43 38 W	S 43 38 E	922	Laney.
3	38 32 07.38	76 12 37.00	N 5 20 E	S 5 20 W	1,135	Swep.
			N 57 55 W	S 57 56 E	846	Laney.
			S 47 44 W	N 47 44 E	657	Eleanor.
4	38 32 02.54	76 12 13.75	S 75 49 W	N 75 48 E	1,136	Eleanor.
			S 16 25 W	N 16 25 E	451	Doctor.
			S 45 18 E	N 45 18 W	675	Mary.

FISHING CREEK.

(Little Choptank River—Fishing Creek—Chart No. 37.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 31 35.43	76 12 13.22	S 88 50 E	N 88 49 W	1,449	Austin.
			N 46 38 E	S 46 38 W	640	Mary.
			N 16 02 W	S 16 02 E	502	Doctor.
2	38 31 54.70	76 12 16.39	S 33 34 E	N 33 34 W	897	Tom.
			N 63 44 E	S 63 45 W	597	Etta.
			N 24 45 W	S 24 45 E	743	Hugh.
3	38 32 02.54	76 12 13.75	S 75 49 W	N 75 48 E	1,136	Eleanor.
			S 16 25 W	N 16 25 E	451	Doctor.
			S 45 18 E	N 45 18 W	675	Mary.
4	38 31 53.92	76 12 02.43	N 89 30 W	S 89 29 E	1,402	Eleanor.
			S 71 33 W	N 71 32 E	447	Doctor.
			S 9 54 E	N 9 54 W	732	Tom.
5	38 31 36.00	76 11 50.84	S 86 44 E	N 86 43 W	857	Austin.
			N 16 51 W	S 16 51 E	440	Mary.
			N 57 41 W	S 57 41 E	865	Doctor.

GRAPEVINE.

(Little Choptank River—Fishing Creek—Chart No. 37.)

1	38 31 38.00	76 11 16.16	N 67 40 E	S 67 40 W	883	Kirby.
			N 23 42 E	S 23 42 W	300	Neil.
			N 71 21 W	S 71 21 E	1,105	Mary.
2	38 31 44.60	76 11 16.12	S 69 45 W	N 69 44 E	1,173	Tom.
			S 10 43 W	N 10 43 E	344	Austin.
			N 82 07 E	S 82 07 W	823	Kirby.
3	38 31 45.98	76 10 45.86	S 66 00 W	N 66 00 E	947	Austin.
			S 2 23 E	N 2 23 W	961	Church Creek (No. 1. West)
			N 67 01 E	S 67 01 W	992	Paul.
4	38 31 39.04	76 10 45.65	N 55 36 E	S 55 37 W	1,100	Paul.
			N 1 37 E	S 1 37 W	301	Kirby.
			N 70 48 W	S 70 48 E	728	Neil.

BRIDGE.

(Slaughter Creek—Chart No. 38.)

1	38 28 13.02	76 17 27.61	S 37 00 E	N 36 59 W	646	Finish.
			N 48 45 E	S 48 45 W	911	Noblee.
			N 10 46 W	S 10 46 E	717	Harrington.
2	38 28 13.55	76 17 32.20	S 7 05 W	N 7 05 E	566	Taylor.
			N 54 09 E	S 54 09 W	995	Noblee.
			N 1 02 W	S 1 02 E	688	Harrington.
3	38 28 19.52	76 17 30.80	S 7 58 W	N 7 58 E	770	Taylor.
			N 63 38 E	S 63 38 W	860	Noblee.
			N 5 49 W	S 5 49 E	489	Harrington.
4	38 28 19.43	76 17 26.28	S 25 47 E	N 25 46 W	814	Finish.
			N 59 23 E	S 59 23 W	756	Noblee.
			N 19 06 W	S 19 07 E	517	Harrington.

PUNCH ISLAND CREEK.

(Chesapeake Bay off Punch Island Creek—Chart No. 38.)

Corner of bar	Latitude	Longitude	True bearing: Forward	True bearing: Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 23 56.04	76 19 13.20	S 70 15 E	N 70 14 W	3,746	Dunnock.
			N 5 58 W	S 5 59 E	8,641	Travers 2.
			S 75 21 W	N 75 18 E	6,094	Cove Point Light.
2	38 25 38.36	76 20 01.28	N 4 10 E	S 4 11 W	5,157	Travers 2.
			S 42 47 W	N 42 45 E	6,800	Cove Point Light.
			S 45 31 E	N 45 29 W	6,730	Dunnock.
3	38 26 37.92	76 19 31.38	N 7 35 W	S 7 35 E	3,163	Travers 2.
			S 37 43 W	N 37 41 E	8,848	Cove Point Light.
			S 30 48 E	N 30 46 W	7,828	Dunnock.
4	38 24 28.52	76 17 54.30	N 21 45 W	S 21 46 E	8,073	Travers 2.
			S 71 44 W	N 71 40 E	8,413	Cove Point Light.
			S 31 14 E	N 31 13 W	2,760	Dunnock.

STONE PILE.

(Chesapeake Bay off Barren Island—Chart No. 39.)

1	38 20 14.08	76 17 00.20	S 53 49 E	N 53 48 W	2,452	South.
			N 70 50 E	S 70 49 W	1,741	North.
			N 0 03 W	S 0 03 E	6,237	Dunnock.
2	38 20 36.20	76 17 00.60	S 42 17 E	N 42 16 W	2,965	South.
			S 84 00 E	N 83 59 W	1,664	North.
			N 0 04 E	S 0 04 W	5,475	Dunnock.
3	38 20 42.48	76 16 37.06	S 29 34 E	N 29 33 W	2,765	South.
			S 69 28 E	N 69 28 W	1,100	North.
			N 6 43 W	S 6 43 E	5,298	Dunnock.
4	38 20 15.24	76 16 44.80	S 46 34 E	N 46 33 W	2,162	South.
			N 66 41 E	S 66 41 W	1,345	North.
			N 3 50 W	S 3 50 E	6,194	Dunnock.

NEW DISCOVERY.

(Chesapeake Bay off Barren Island—Chart No. 39.)

1	38 17 36.82	76 16 29.76	N 83 28 E	S 83 30 W	6,554	Bridge.
			N 16 53 E	S 16 54 W	4,029	South.
			N 85 30 W	S 85 33 E	8,928	Cedar Point Light.
2	38 17 38.00	76 16 48.24	N 84 14 E	S 84 17 W	7,038	Bridge.
			N 23 32 E	S 23 32 W	4,161	South.
			N 85 30 W	S 85 33 E	8,435	Cedar Point Light.
3	38 18 29.32	76 16 48.16	S 81 41 E	N 81 38 W	7,074	Bridge.
			N 38 27 E	S 38 27 W	2,668	South.
			S 82 46 W	N 82 43 E	8,479	Cedar Point Light.
4	38 18 30.14	76 16 29.98	S 80 50 E	N 80 48 W	6,602	Bridge.
			N 29 45 E	S 29 45 W	2,370	South.
			S 82 58 W	N 82 55 E	8,961	Cedar Point Light.

HORSE POINT CHANNEL.

(Tar Bay—Charts Nos. 39 and 40.)

Corner of bar	Latitude	Longitude	True bearing: Forward	True bearing: Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 17 51.82	76 13 39.72	S 23 04 W	N 23 03 E	5,460	Hooper Island Light.
			N 83 03 E	S 83 04 W	2,008	Bridge. [Spire.
			N 0 13 W	S 0 13 E	2,258	Mount Zion M. E. Church
2	38 18 15.04	76 14 06.06	S 13 53 W	N 13 53 E.	5,993	Hooper Island Light.
			S 78 39 E	N 78 38 W	2,747	Bridge. [Spire.
			N 25 07 E	S 25 07 W	1,629	Mount Zion M. E. Church
3	38 18 21.82	76 13 58.40	S 15 12 W	N 15 11 E	6,265	Hooper Island Light.
			S 72 50 E	N 72 49 W	2,605	Bridge. [Spire.
			N 21 23 E	S 21 23 W	1,339	Mount Zion M. E. Church
4	38 17 58.08	76 13 30.06	S 24 33 W	N 24 32 E	5,767	Hooper Island Light.
			N 88 57 E	S 88 58 W	1,737	Bridge. [Spire.
			N 7 22 W	S 7 22 E	2,065	Mount Zion M. E. Church

WARE.

(Chesapeake Bay—Off Middle Hooper Island—Charts Nos. 39 and 40.)

1	38 17 07.00	76 12 30.44	N 26 08 W	S 26 08 E	4,198	Mount Zion M. E. Church Spire.
			S 48 29 W	N 48 27 E	5,317	Hooper Island Light.
			S 41 29 E	N 41 28 W	4,076	Hoopersville Methodist Church Cupola.
2	38 17 09.85	76 12 42.24	N 22 41 W	S 22 41 E	3,982	Mount Zion M. E. Church Spire.
			S 45 22 W	N 45 21 E	5,153	Hooper Island Light.
			S 43 44 E	N 43 43 W	4,359	Hoopersville Methodist Church Cupola.
3	38 17 19.64	76 12 39.00	N 25 52 W	S 25 53 E	3,716	Mount Zion M. E. Church Spire.
			S 43 32 W	N 43 31 E	5,448	Hooper Island Light.
			S 40 04 E	N 40 03 W	4,547	Hoopersville Methodist Church Cupola.
4	38 17 16.00	76 12 27.55	N 29 03 W	S 29 04 E	3,964	Mount Zion M. E. Church Spire.
			S 46 40 W	N 46 39 E	5,578	Hooper Island Light.
			S 38 00 E	N 37 59 W	4,260	Hoopersville Methodist Church Cupola.

WHITE WOOD.

(*Tar Bay—Chart No. 39.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 18 42.04	76 14 17.60	S 9 33 W	N 9 32 E	6,822	Hooper Island Light.
			N 60 29 E	S 60 29 W	1,147	Mount Zion M. E. Church Spire.
			N 16 13 E	S 16 13 W	2,597	Hosier Memorial Church Spire.
2	38 18 52.52	76 14 23.00	S 7 57 W	N 7 56 E	7,150	Hooper Island Light.
			N 79 29 E	S 79 30 W	1,161	Mount Zion M. E. Church Spire.
			N 22 05 E	S 22 05 W	2,311	Hosier Memorial Church Spire.
3	38 18 55.92	76 14 14.60	S 9 33 W	N 9 33 E	7,298	Hooper Island Light.
			N 83 58 E	S 83 58 W	924	Mount Zion M. E. Church Spire.
			N 17 40 E	S 17 40 W	2,127	Hosier Memorial Church Spire.
4	38 18 45.56	76 14 08.52	S 11 20 W	N 11 20 E	6,983	Hooper Island Light.
			N 59 28 E	S 59 28 W	879	Mount Zion M. E. Church Spire.
			N 11 31 E	S 11 31 W	2,425	Hosier Memorial Church Spire.

TAR BAY.

(*Tar Bay—Chart No. 39.*)

1	38 19 51.60	76 14 40.56	S 42 05 E	N 42 05 W	2,399	Mount Zion M. E. Church Spire.
			N 83 38 E	S 83 38 W	1,343	Hosier Memorial Church
			N 17 34 E	S 17 34 W	2,064	Mint. [Spire.
2	38 20 00.50	76 14 52.44	S 42 45 E	N 42 44 W	2,835	Mount Zion M. E. Church Spire.
			S 84 46 E	N 84 46 W	1,657	Hosier Memorial Church
			N 29 22 E	S 29 22 W	1,913	Mint. [Spire.
3	38 20 22.52	76 14 25.54	S 5 12 W	N 5 12 E	10,157	Hooper Island Light.
			S 46 20 E	N 46 19 W	1,294	Hosier Memorial Church
			N 13 36 E	S 13 36 W	951	Mint. [Spire.
4	38 20 13.88	76 14 14.80	S 7 00 W	N 6 59 E	9,898	Hooper Island Light.
			S 47 13 E	N 47 13 W	886	Hosier Memorial Church
			N 2 54 W	S 2 54 E	1,217	Mint. [Spire.

TUBBMANS DRAIN.

(*Honga River—Charts Nos. 39 and 40.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 20 41.16	76 12 40.52	S 8 04 W	N 8 04 E	823	Gunners.
			N 46 46 E	S 46 47 W	2,825	Kerwin.
			N 14 18 W	S 14 18 E	2,511	Keenes.
2	38 21 04.94	76 13 32.18	N 24 44 E	S 24 44 W	1,797	Keenes.
			S 67 02 W	N 67 01 E	1,296	Mint.
			S 37 51 E	N 37 51 W	2,047	Gunners.
3	38 21 32.82	76 12 59.10	S 8 24 E	N 8 24 W	2,585	Gunners.
			N 85 41 E	S 85 42 W	2,559	Kerwin.
			N 10 23 W	S 10 23 E	703	Keenes.
4	38 21 31.24	76 12 21.72	S 13 48 W	N 13 48 E	2,578	Gunners.
			N 81 01 W	S 81 02 E	1,579	Kerwin.
			N 56 21 W	S 56 22 E	1,344	Keenes.
5	38 20 50.92	76 12 05.68	N 35 13 E	S 35 13 W	1,965	Kerwin.
			N 36 17 W	S 36 18 E	2,610	Keenes.
			S 42 18 W	N 42 17 E	1,546	Gunners.

PEANUT.

(*Honga River—Charts Nos. 39 and 40.*)

1	38 20 50.92	76 12 05.68	N 35 13 E	S 35 13 W	1,965	Kerwin.
			N 36 17 W	S 36 18 E	2,610	Keenes.
			S 42 18 W	N 42 17 E	1,546	Gunners.
2	38 21 31.24	76 12 21.72	S 13 48 W	N 13 48 E	2,578	Gunners.
			N 81 01 W	S 81 02 E	1,579	Kerwin.
			N 56 21 W	S 56 22 E	1,344	Keenes.
3	38 21 06.78	76 11 08.84	S 19 20 W	N 19 19 E	1,135	Kerwin.
			S 56 38 W	N 56 37 E	3,053	Gunners.
			S 0 11 E	N 0 11 W	3,543	Wroten.

GUM.

(*Honga River—Charts Nos. 39 and 40.*)

1	38 20 08.82	76 11 36.90	N 6 58 E	S 6 58 W	3,048	Kerwin.
			N 81 20 W	S 81 21 E	1,826	Gunners.
			S 25 29 E	N 25 29 W	1,757	Wroten.
2	38 20 11.70	76 11 54.90	S 36 15 E	N 36 15 W	2,088	Wroten.
			N 16 08 E	S 16 08 W	3,049	Kerwin.
			N 82 21 W	S 82 21 E	1,339	Gunners.
3	38 20 13.24	76 12 04.30	S 40 32 E	N 40 32 W	2,283	Wroten.
			N 20 52 E	S 20 53 W	3,078	Kerwin.
			N 83 18 W	S 83 19 E	1,085	Gunners.
4	38 20 50.92	76 12 05.68	N 35 13 E	S 35 13 W	1,965	Kerwin.
			N 36 17 W	S 36 18 E	2,610	Keenes.
			S 42 18 W	N 42 17 E	1,546	Gunners.
5	38 21 06.78	76 11 08.84	S 19 20 W	N 19 19 E	1,135	Kerwin.
			S 56 38 W	N 56 37 E	3,053	Gunners.
			S 0 11 E	N 0 11 W	3,543	Wroten.
6	38 20 22.66	76 11 03.78	N 11 16 W	S 11 17 E	2,609	Kerwin.
			S 85 55 W	N 85 54 E	2,691	Gunners.
			S 3 27 W	N 3 27 E	2,057	Wroten.

WROTEN ISLAND.

(Honga River—Charts Nos. 39 and 40.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 18 12.40	76 12 00.50	N 59 24 W	S 59 25 E	3,072	Mount Zion M. E. Church
			S 54 59 W	N 54 59 E	785	Bridge. [Spire.
			S 61 38 E	N 61 37 W	2,445	Bentley.
2	38 19 20.32	76 12 45.56	N 0 33 E	S 0 33 W	1,912	Gunners.
			S 63 22 W	N 63 22 E	1,619	Mount Zion M. E. Church
			S 11 25 E	N 11 25 W	2,796	Bridge. [Spire.
3	38 20 11.70	76 11 54.90	S 36 15 E	N 36 15 W	2,088	Wroten.
			N 16 08 E	S 16 08 W	3,049	Kerwin.
			N 82 21 W	S 82 21 E	1,339	Gunners.
4	38 19 55.12	76 11 46.86	N 64 25 W	S 64 26 E	1,708	Gunners.
			S 14 25 W	N 14 24 E	4,042	Bridge.
			S 42 14 E	N 42 14 W	1,519	Wroten.
5	38 19 41.22	76 11 59.10	N 45 13 W	S 45 14 E	1,713	Gunners.
			S 11 11 W	N 11 10 E	3,513	Bridge.
			S 64 01 E	N 64 01 W	1,497	Wroten.
6	38 18 49.00	76 11 57.96	N 83 04 W	S 83 03 E	2,732	Mount Zion M. E. Church
			S 22 53 W	N 22 53 E	1,828	Bridge. [Spire.
			S 41 01 E	N 41 01 W	3,175	Bentley.
7	38 18 42.22	76 11 09.82	N 1 35 E	S 1 35 W	1,334	Wroten.
			S 53 48 W	N 53 47 E	2,467	Bridge.
			S 20 23 E	N 20 22 W	2,312	Bentley.

SMOKE POINT.

(Honga River—Chart No. 40.)

1	38 17 52.32	76 11 14.54	S 62 30 E	N 62 30 W	1,049	Bentley.
			N 45 24 E	S 45 23 W	3,003	Charles.
			N 83 06 W	S 83 06 E	1,879	Bridge.
2	38 17 54.62	76 11 43.28	S 71 39 E	N 71 39 W	1,785	Bentley.
			N 55 00 E	S 55 01 W	3,542	Charles.
			N 82 19 W	S 82 19 E	1,111	Bridge.
3	38 18 01.68	76 11 42.60	S 64 29 E	N 64 29 W	1,857	Bentley.
			N 58 07 E	S 58 08 W	3,396	Charles.
			S 85 26 W	N 85 25 E	1,120	Bridge.
4	38 17 58.70	76 11 14.22	S 52 49 E	N 52 49 W	1,157	Bentley.
			N 48 21 E	S 48 20 W	2,850	Charles.
			N 89 40 W	S 89 41 E	1,873	Bridge.

DARK POINT.

(Honga River—Chart No. 40.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 17 27.98	76 09 27.16	N 24 22 E	S 24 22 W	2,546	Lakes.
			N 13 43 E	S 13 43 W	3,016	Charles.
			N 80 05 W	S 80 06 E	1,953	Bentley.
2	38 18 00.32	76 09 57.80	N 56 37 E	S 56 38 W	2,232	Lakes.
			N 3 05 E	S 3 05 W	1,843	Charles.
			S 55 47 W	N 55 47 E	1,341	Bentley.
3	38 17 56.00	76 10 44.14	N 33 49 E	S 33 50 W	2,391	Charles.
			N 87 49 W	S 87 50 E	2,675	Bridge.
			S 11 23 E	N 11 23 W	620	Bentley.
4	38 18 51.52	76 10 56.94	N 86 06 E	S 86 07 W	1,674	Charles.
			N 16 40 W	S 16 40 E	1,065	Wroten.
			S 52 48 W	N 54 47 E	2,929	Bridge.
5	38 18 55.40	76 10 13.14	N 58 49 W	S 58 49 E	1,717	Wroten.
			S 15 02 W	N 15 02 E	2,703	Bentley.
			S 88 03 E	N 88 03 W	507	Charles.
6	38 18 37.97	76 09 31.54	N 46 22 W	S 46 23 E	827	Charles.
			S 41 46 W	N 41 45 W	2,713	Bentley.
			N 88 00 W	S 88 00 E	1,167	Lakes.
7	38 17 52.42	76 09 20.68	N 30 25 E	S 30 25 W	1,733	Lakes.
			N 22 50 W	S 22 51 E	2,290	Charles.
			S 76 54 W	N 76 53 E	2,151	Bentley.

LAKES COVE.

(Honga River—Chart No. 40.)

1	38 16 55.38	76 09 18.12	S 42 12 W	N 42 11 E	3,592	Hoopersville Methodist Church Cupola.
			S 23 30 E	N 23 30 W	1,356	Windmill 2.
			N 64 12 E	S 64 12 W	518	Asquith.
2	38 17 16.45	76 09 48.20	N 30 43 E	S 30 44 W	3,150	Lakes.
			N 2 41 W	S 2 41 E	3,322	Charles.
			N 62 00 W	S 62 01 E	1,545	Bentley.
3	38 17 17.87	76 09 31.63	N 23 43 E	S 23 44 W	2,906	Lakes.
			N 10 20 W	S 10 20 E	3,325	Charles.
			N 69 26 W	S 69 27 E	1,927	Bentley.
4	38 17 27.98	76 09 27.16	N 24 22 E	S 24 22 W	2,546	Lakes.
			N 13 43 E	S 13 43 W	3,016	Charles.
			N 80 05 W	S 80 06 E	1,953	Bentley.
5	38 17 52.42	76 09 20.68	N 30 25 E	S 30 25 W	1,733	Lakes.
			N 22 50 W	S 22 51 E	2,290	Charles.
			S 76 54 W	N 76 53 E	2,151	Bentley.
6	38 18 02.14	76 08 33.80	N 17 29 W	S 17 29 E	1,224	Lakes.
			N 50 10 W	S 50 11 E	2,777	Charles.
			S 76 17 W	N 76 15 E	3,439	Bentley.
7	38 17 37.89	76 08 43.94	N 2 50 W	S 2 50 E	1,987	Lakes.
			N 35 40 W	S 35 41 E	3,195	Charles.
			N 89 58 W	S 89 59 E	3,072	Bentley.

WINDMILL.

(Honga River—Chart No. 40.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 15 44.58	76 09 38.82	S 38 46 E	N 38 45 W	2,981	Hopkins Memorial Church Cupola.
			N 43 38 E	S 43 39 W	1,581	Windmill 2.
			S 81 38 W	N 81 37 E	1,883	Hoopersville Methodist Church Cupola.
2	38 16 39.32	76 10 06.60	S 27 57 W	N 27 57 E	2,399	Hoopersville Methodist Church Cupola.
			S 69 00 E	N 69 00 W	1,960	Windmill 2.
			N 66 24 E	S 66 25 W	1,916	Asquith.
3	38 16 55.38	76 09 18.12	S 42 12 W	N 42 11 E	3,592	Hoopersville Methodist Church Cupola.
			S 23 30 E	N 23 30 W	1,356	Windmill 2.
			N 64 12 E	S 64 12 W	518	Asquith.
4	38 16 00.58	76 08 57.98	N 0 30 E	S 0 30 W	605	Windmill 2.
			S 74 35 W	N 74 33 E	3,059	Hoopersville Methodist Church Cupola.
			S 15 15 E	N 15 15 W	2,969	Hopkins Memorial Church Cupola.

HICKORY.

(Honga River—Chart No. 40.)

1	38 15 44.58	76 09 38.82	S 38 46 E	N 38 45 W	2,981	Hopkins Memorial Church Cupola.
			N 43 38 E	S 43 39 W	1,581	Windmill 2.
			S 81 38 W	N 81 37 E	1,883	Hoopersville Methodist Church Cupola.
2	38 15 52.42	76 10 00.76	N 62 17 E	S 62 17 W	1,891	Windmill 2.
			N 34 16 E	S 34 17 W	2,842	Asquith.
			S 67 12 W	N 67 11 E	1,389	Hoopersville Methodist Church Cupola.
3	38 16 17.94	76 10 15.30	S 32 34 W	N 32 34 E	1,660	Hoopersville Methodist Church Cupola.
			N 89 32 E	S 89 32 W	2,060	Windmill 2.
			N 53 11 E	S 53 11 W	2,482	Asquith.
4	38 16 39.32	76 10 06.60	S 27 57 W	N 27 57 E	2,399	Hoopersville Methodist Church Cupola.
			S 69 00 E	N 69 00 W	1,960	Windmill 2.
			N 66 24 E	S 66 25 W	1,916	Asquith.

LOWER THOROUGHFARE.

(*Honga River—Chart No. 40.*)

Corner of bar	Latitude	Longitude	True bearing: Forward	True bearing: Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 15 16.32	76 09 20.92	N 44 37 E	S 44 38 W	4,289	Paul.
			N 16 21 E	S 16 21 W	2,185	Windmill 2.
			N 73 49 W	S 73 50 E	2,435	Hoopersville Methodist Church Cupola.
2	38 15 22.58	76 09 55.40	N 88 43 E	S 88 45 W	5,950	Norman.
			N 39 05 E	S 39 06 W	2,430	Windmill 2.
			N 71 47 W	S 71 48 E	1,497	Hoopersville Methodist Church Cupola.
3	38 15 28.00	76 09 54.92	S 89 31 E	N 89 29 W	5,936	Norman.
			N 41 44 E	S 41 44 W	2,282	Windmill 2.
			N 78 45 W	S 78 46 E	1,463	Hoopersville Methodist Church Cupola.
4	38 15 39.62	76 08 48.36	N 43 26 E	S 43 27 W	3,123	Paul.
			N 10 49 W	S 10 49 E	1,335	Windmill 2.
			S 88 06 W	N 88 08 E	3,206	Hoopersville Methodist Church Cupola.
5	38 15 27.02	76 08 45.10	N 37 26 E	S 37 26 W	3,390	Paul.
			N 10 59 W	S 10 59 E	1,768	Windmill 2.
			N 84 29 W	S 84 31 E	3,307	Hoopersville Methodist Church Cupola.

PAUL.

(*Honga River—Chart No. 40.*)

1	38 16 03.42	76 08 15.64	S 69 20 E	N 69 19 W	3,522	Norman.
			N 41 05 E	S 41 05 W	1,944	Paul.
			N 65 34 W	S 65 35 E	1,230	Windmill 2.
2	38 16 19.26	76 08 28.20	S 63 55 E	N 63 53 W	4,042	Norman.
			N 59 58 E	S 59 59 W	1,861	Paul.
			S 88 09 W	N 88 09 E	786	Windmill 2.
3	38 16 24.80	76 08 17.22	S 59 32 E	N 59 31 W	3,874	Norman.
			N 60 34 E	S 60 34 W	1,515	Paul.
			S 78 52 W	N 78 52 E	1,099	Windmill 2.
4	38 16 09.16	76 08 04.74	S 64 28 E	N 64 27 W	3,332	Norman.
			S 37 50 E	N 37 50 W	1,611	Paul.
			N 77 24 W	S 77 24 E	1,445	Windmill 2.

CRAB POINT.

(Honga River—Chart No. 40.)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 15 53.08	76 07 23.38	S 64 52 E	N 64 52 W	2,106	Norman.
			N 3 31 W	S 3 31 E	1,818	Paul.
			N 71 08 W	S 71 09 E	2,652	Windmill 2.
2	38 15 56.60	76 07 48.80	S 68 35 E	N 68 34 W	2,774	Norman.
			N 18 24 E	S 18 24 W	1,787	Paul.
			N 68 04 W	S 68 05 E	1,977	Windmill 2.
3	38 16 04.08	76 07 47.56	S 63 37 E	N 63 36 W	2,847	Norman.
			N 20 12 E	S 20 12 W	1,538	Paul.
			N 75 24 W	S 75 23 E	1,929	Windmill 2.
4	38 16 00.44	76 07 21.48	S 58 23 E	N 58 23 W	2,180	Norman.
			N 5 55 W	S 5 55 E	1,575	Paul.
			N 76 37 W	S 76 38 E	2,631	Windmill 2.

NORMAN.

(Honga River—Chart No. 40.)

1	38 14 13.98	76 06 03.62	S 62 08 E	N 62 07 W	2,723	Hooper Strait Light.
			N 5 00 W	S 5 00 E	2,457	Norman.
			S 80 50 W	N 80 49 E	3,765	Applegarth.
2	38 14 32.20	76 07 06.08	N 38 17 E	S 38 17 W	2,335	Norman.
			N 86 59 W	S 87 00 E	2,198	Hopkins Memorial Church Cupola.
			S 59 27 W	N 59 27 E	2,387	Applegarth.
3	38 15 33.24	76 08 33.96	S 86 35 E	N 86 34 W	3,790	Norman.
			N 35 24 E	S 35 25 W	3,046	Paul.
			N 22 32 W	S 22 32 E	1,652	Windmill 2.
4	38 15 38.98	76 06 45.80	S 65 15 E	N 65 14 W	1,000	Norman.
			N 25 53 W	S 25 53 E	2,545	Paul.
			N 69 12 W	S 69 14 E	3,753	Windmill 2.

APPLEGARTH.

(Hooper Strait—Chart No. 40.)

1	38 12 51.50	76 05 47.84	S 10 27 E	N 10 27 W	3,121	Okahanikan.
			N 52 49 E	S 52 50 W	2,496	Hooper Strait Light.
			N 6 55 W	S 6 55 E	5,267	Norman.
2	38 13 49.00	76 06 46.30	S 83 04 E	N 83 03 W	3,570	Hooper Strait Light.
			N 15 38 E	S 15 38 W	3,416	Norman.
			N 84 37 W	S 84 38 E	2,593	Applegarth.
3	38 14 13.98	76 06 03.62	S 62 08 E	N 62 07 W	2,723	Hooper Strait Light.
			N 5 00 W	S 5 00 E	2,457	Norman.
			S 80 50 W	N 80 49 E	3,765	Applegarth.
4	38 13 13.88	76 05 05.12	N 74 52 W	S 74 54 E	5,463	Applegarth.
			N 48 29 E	S 48 29 W	1,137	Hooper Strait Light.
			S 8 30 W	N 8 29 E	3,866	Okahanikan.

HOOPER STRAIT.

(*Hooper Strait—Chart No. 40.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 12 30.24	76 07 05.96	S 48 21 E	N 48 20 W	3,540	Okahanikan.
			N 61 18 E	S 61 19 W	4,636	Hooper Strait Light.
			N 35 23 W	S 35 24 E	3,555	Applegarth.
2	38 12 48.96	76 07 29.02	S 47 31 E	N 47 30 W	4,418	Okahanikan.
			N 71 12 E	S 71 14 W	4,943	Hooper Strait Light.
			N 32 31 W	S 32 31 E	2,689	Applegarth.
3	38 13 11.04	76 06 56.76	S 32 47 E	N 32 46 W	4,433	Okahanikan.
			N 77 28 E	S 77 30 W	3,914	Hooper Strait Light.
			N 56 32 W	S 56 33 E	2,761	Applegarth.
4	38 12 54.18	76 06 02.80	S 16 58 E	N 16 58 W	3,304	Okahanikan.
			N 59 13 E	S 59 14 W	2,771	Hooper Strait Light.
			N 60 47 W	S 60 48 E	4,284	Applegarth.

RICHLAND.

(*Hooper Strait—Chart No. 40.*)

1	38 12 37.64	76 08 23.88	S 61 07 E	N 61 05 W	5,389	Okahanikan.
			N 0 18 E	S 0 18 W	2,650	Applegarth.
			N 62 13 W	S 62 17 E	11,910	Hooper Island Light.
2	38 12 50.28	76 08 24.76	S 57 26 E	N 57 24 W	5,627	Okahanikan.
			N 0 57 E	S 0 57 W	2,224	Applegarth.
			N 64 00 W	S 64 04 E	11,697	Hooper Island Light.
3	38 12 50.40	76 08 12.76	S 55 34 E	N 55 32 W	5,363	Okahanikan.
			N 7 15 W	S 7 15 E	2,238	Applegarth.
			N 64 41 W	S 64 46 E	11,983	Hooper Island Light.
4	38 12 37.72	76 08 12.58	S 59 28 E	N 59 27 W	5,129	Okahanikan.
			N 6 11 W	S 6 11 E	2,663	Applegarth.
			N 62 53 W	S 62 57 E	12,176	Hooper Island Light.

BLOODSWORTH.

(*Hooper Strait—Charts Nos. 40 and 41.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 12 12.66	76 02 41.75	S 88 13 E	N 88 11 W	5,551	Sharkfin Shoal Light.
			N 28 04 E	S 28 04 W	2,570	Head.
			N 46 26 W	S 46 27 E	4,088	Hooper Strait Light.
2	38 12 24.55	76 02 57.30	S 84 30 E	N 84 28 W	5,990	Sharkfin Shoal Light.
			N 41 00 E	S 41 00 W	2,474	Head.
			N 46 31 W	S 46 32 E	3,513	Hooper Strait Light.
3	38 12 20.54	76 03 02.14	S 85 53 E	N 85 51 W	6,107	Sharkfin Shoal Light.
			N 41 11 E	S 41 12 W	2,660	Head.
			N 43 28 W	S 43 29 E	3,517	Hooper Strait Light.
4	38 12 34.28	76 03 38.26	S 82 43 E	N 82 40 W	7,108	Sharkfin Shoal Light.
			N 60 26 E	S 60 27 W	3,118	Head.
			N 34 55 W	S 34 56 E	2,548	Hooper Strait Light.
5	38 12 54.98	76 03 37.04	S 77 10 E	N 77 07 W	7,199	Sharkfin Shoal Light.
			N 72 35 E	S 72 37 W	2,808	Head.
			N 46 59 W	S 47 00 E	2,040	Hooper Strait Light.
6	38 12 42.22	76 02 47.02	S 78 23 E	N 78 21 W	5,807	Sharkfin Shoal Light.
			N 46 42 E	S 46 43 W	1,854	Head.
			N 57 10 W	S 57 11 E	3,358	Hooper Strait Light.
7	38 12 18.85	76 02 34.19	S 85 56 E	N 85 54 W	5,360	Sharkfin Shoal Light.
			N 26 05 E	S 26 05 W	2,292	Head.
			N 50 29 W	S 50 30 E	4,100	Hooper Strait Light.

HOPKINS COVE.

(*Hooper Strait—Chart No. 41.*)

1	38 12 53.07	76 02 33.80	S 73 57 E	N 73 55 W	5,553	Sharkfin Shoal Light.
			N 47 46 E	S 47 47 W	1,347	Head.
			N 65 22 W	S 65 23 E	3,492	Hooper Strait Light.
2	38 13 03.37	76 03 17.05	S 73 49 E	N 73 47 W	6,755	Sharkfin Shoal Light.
			N 75 27 E	S 75 28 W	2,219	Head.
			N 61 17 W	S 61 17 E	2,307	Hooper Strait Light.
3	38 13 13.92	76 03 13.52	S 70 42 E	N 70 40 W	6,774	Sharkfin Shoal Light.
			N 84 23 E	S 84 24 W	2,064	Head.
			N 70 25 W	S 70 26 E	2,247	Hooper Strait Light.
4	38 13 04.22	76 02 32.48	S 70 11 E	N 70 09 W	5,635	Sharkfin Shoal Light.
			N 61 11 E	S 61 12 W	1,098	Head.
			N 71 24 W	S 71 25 E	3,387	Hooper Strait Light.
5	38 12 58.42	76 02 26.23	S 71 32 E	N 71 30 W	5,413	Sharkfin Shoal Light.
			N 47 41 E	S 47 41 W	1,076	Head.
			N 69 18 W	S 69 19 E	3,608	Hooper Strait Light.

RED SECTOR.

(Hooper Strait—Chart No. 41.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 12 23.72	76 02 11.56	S 83 27 E	N 83 26 W	4,776	Sharkfin Shoal Light.
			N 12 05 E	S 12 06 W	1,938	Head.
			N 57 00 W	S 57 02 E	4,489	Hooper Strait Light.
2	38 12 39.64	76 02 27.89	S 78 12 E	N 78 10 W	5,291	Sharkfin Shoal Light.
			N 31 45 E	S 31 45 W	1,597	Head.
			N 60 12 W	S 60 13 E	3,839	Hooper Strait Light.
3	38 12 48.03	76 02 15.00	S 74 15 E	N 74 13 W	5,025	Sharkfin Shoal Light.
			N 24 50 E	S 24 50 W	1,184	Head.
			N 66 08 W	S 66 10 E	4,017	Hooper Strait Light.
4	38 12 36.16	76 02 02.08	S 77 54 E	N 77 52 W	4,595	Sharkfin Shoal Light.
			N 5 57 E	S 5 57 W	1,484	Head.
			N 63 15 W	S 63 17 E	4,498	Hooper Strait Light.

BELL BUOY.

(Hooper Strait—Charts Nos. 41 and 42.)

1	38 11 25.80	76 01 22.21	N 67 41 E	S 67 42 W	3,709	Sharkfin Shoal Light.
			N 13 16 W	S 13 16 E	3,953	Head.
			N 49 07 W	S 49 09 E	6,717	Hooper Strait Light.
2	38 11 40.82	76 02 00.26	N 78 31 E	S 78 33 W	4,535	Sharkfin Shoal Light.
			N 1 48 E	S 1 48 W	3,343	Head.
			N 46 15 W	S 46 14 E	5,627	Hooper Strait Light.
3	38 12 22.84	76 01 56.04	S 83 14 W	N 83 12 E	4,362	Sharkfin Shoal Light.
			N 0 12 W	S 0 12 E	1,925	Head.
			N 59 22 W	S 59 23 E	4,856	Hooper Strait Light.
4	38 12 24.96	76 01 41.42	S 81 33 E	N 81 32 W	3,986	Sharkfin Shoal Light.
			N 12 03 W	S 12 04 E	1,895	Head.
			N 62 15 W	S 62 17 E	5,160	Hooper Strait Light.
5	38 12 57.84	76 01 40.72	S 66 39 E	N 66 37 W	4,275	Sharkfin Shoal Light.
			N 72 00 E	S 72 03 W	7,982	Frog.
			N 29 06 W	S 29 06 E	852	Head.
6	38 13 04.38	76 01 19.76	S 60 22 E	N 60 21 W	3,874	Sharkfin Shoal Light.
			N 72 18 E	S 72 20 W	7,384	Frog.
			N 61 40 W	S 61 41 E	1,105	Head.
7	38 12 31.84	76 00 11.98	S 62 24 E	N 62 24 W	1,763	Sharkfin Shoal Light.
			N 57 25 E	S 57 27 W	6,209	Frog.
			N 59 43 W	S 59 44 E	3,214	Head.
8	38 11 58.90	76 01 19.76	N 85 02 E	S 85 03 W	3,379	Sharkfin Shoal Light.
			N 19 35 W	S 19 36 E	2,899	Head.
			N 57 [illegible]8 W	S 57 30 E	6,100	Hooper Strait Light.

JANE.

(*Upper Tangier Sound—Chart No. 41.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 11 25.80	76 00 45.38	S 88 22 E	N 88 19 W	6,861	Room.
			N 60 06 E	S 60 07 W	2,828	Sharkfin Shoal Light.
			N 26 07 W	S 26 08 E	4,286	Head.
2	38 11 42.26	76 00 45.56	S 83 45 E	N 83 43 W	6,903	Room.
			N 70 49 E	S 70 50 W	2,601	Sharkfin Shoal Light.
			N 29 45 W	S 29 46 E	3,793	Head.
3	38 11 35.12	76 00 19.80	S 85 17 E	N 85 13 W	6,197	Room.
			N 58 16 E	S 58 17 W	2,082	Sharkfin Shoal Light.
			N 36 00 W	S 36 01 E	4,368	Head.
4	38 11 25.83	76 00 19 40	S 88 11 E	N 88 07 W	6,170	Room.
			N 51 20 E	S 51 21 W	2,255	Sharkfin Shoal Light.
			N 33 50 W	S 33 51 E	4,630	Head.

MUD (DORCHESTER COUNTY).

(*Upper Tangier Sound—Chart No. 41.*)

1	38 09 26.74	76 00 23.48	S 10 55 W	N 10 55 E	2,838	Senator.
			S 87 10 E	N 87 07 W	5,546	Deal Island Church.
			N 32 41 W	S 32 41 E	2,607	Crab.
2	38 10 15.54	75 59 41.40	N 11 13 E	S 11 13 W	3,853	Sharkfin Shoal Light.
			N 77 45 W	S 77 46 E	2,587	Crab.
			S 20 31 W	N 20 30 E	4,732	Senator.
3	38 10 22.44	75 59 20.74	N 3 13 E	S 3 13 W	3,552	Sharkfin Shoal Light.
			N 84 08 W	S 84 09 E	3,094	Crab.
			S 25 20 W	N 25 19 E	5,162	Senator.
4	38 09 53.08	75 59 18.00	N 67 28 W	S 67 29 E	3,411	Crab.
			S 31 50 W	N 31 49 E	4,325	Senator.
			S 72 57 E	N 72 58 W	3,970	Deal Island Church.

Thence along county boundary as delineated on Chart No. 41 to corner No. 1.

SHARKFIN SHOAL.

(Upper Tangier Sound—Chart No. 41.)

Corner of bar	Latitude	Longitude	True bearing: Forward	True bearing: Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 11 34.68	75 58 49.07	N 29 51 E	S 29 53 W	6,079	Frog.
			N 30 05 W	S 30 05 E	1,283	Sharkfin Shoal Light.
			N 54 32 W	S 54 34 E	6,114	Head.
2	38 12 51.20	76 00 03.11	S 42 05 E	N 42 04 W	1,981	Sharkfin Shoal Light.
			N 61 41 E	S 61 43 W	5,675	Frog.
			N 72 11 W	S 72 12 E	3,163	Head.
3	38 13 04.38	76 01 19.76	S 60 22 E	N 60 21 W	3,874	Sharkfin Shoal Light.
			N 72 18 E	S 72 20 W	7,384	Frog.
			N 61 40 W	S 61 41 E	1,105	Head.
4	38 13 14.35	76 00 47.66	N 84 08 W	S 84 09 E	1,835	Head.
			S 48 09 E	N 48 08 W	3,374	Sharkfin Shoal Light.
			N 72 50 E	S 72 51 W	6,470	Frog.
5	38 13 26.27	76 00 09.33	S 85 41 W	N 85 40 E	2,853	Head.
			S 29 22 E	N 29 22 W	3,043	Sharkfin Shoal Light.
			N 73 42 E	S 73 44 W	5,377	Frog.
6	38 13 30.68	75 59 55.08	S 83 34 W	N 83 33 E	3,245	Head.
			S 21 41 E	N 21 40 W	3,014	Sharkfin Shoal Light.
			N 74 07 E	S 74 10 W	4,972	Frog.
7	38 12 21.93	75 58 43.47	S 58 38 W	N 58 38 E	927	Sharkfin Shoal Light.
			S 60 00 E	N 59 58 W	4,173	Room.
			N 38 02 E	S 38 03 W	4,671	Frog.

WARE SANDS.

(Fishing Bay—Chart No. 41.)

1	38 12 57.84	76 01 40.72	S 66 39 E	N 66 37 W	4,275	Sharkfin Shoal Light.
			N 72 00 E	S 72 03 W	7,982	Frog.
			N 29 06 W	S 29 06 E	852	Head.
2	38 13 23.40	76 01 40.22	N 17 12 W	S 17 12 E	3,799	Croch.
			S 74 40 W	N 74 39 E	444	Head.
			S 56 50 E	N 56 48 W	4,672	Sharkfin Shoal Light.
3	38 14 00.09	76 01 56.44	S 0 09 E	N 0 09 W	1,355	Head.
			S 48 52 E	N 48 50 W	5,767	Sharkfin Shoal Light.
			N 16 08 W	S 16 08 E	2,490	Croch.
4	38 14 03.76	76 01 49.12	S 7 22 W	N 7 22 E	1,491	Head.
			S 46 38 E	N 46 37 W	5,705	Sharkfin Shoal Light.
			N 21 21 W	S 21 21 E	2,435	Croch.
5	38 13 14.35	76 00 47.66	N 84 08 W	S 84 09 E	1,835	Head.
			S 48 09 E	N 48 08 W	3,374	Sharkfin Shoal Light.
			N 72 50 E	S 72 51 W	6,470	Frog.
6	38 13 04.38	76 01 19.76	S 60 22 E	N 60 21 W	3,874	Sharkfin Shoal Light.
			N 72 18 E	S 72 20 W	7,384	Frog.
			N 61 40 W	S 61 41 E	1,105	Head.

SAND SHOAL.

(*Fishing Bay—Chart No. 41.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 13 26.27	76 00 09.33	S 85 41 W	N 85 40 E	2,853	Head.
			S 29 22 E	N 29 22 W	3,043	Sharkfin Shoal Light.
			N 73 42 E	S 73 44 W	5,377	Frog.
2	38 14 47.44	76 01 32.07	N 59 25 W	S 59 25 E	1,556	Croch.
			S 12 19 W	N 12 19 E	3,021	Head.
			S 34 26 E	N 34 25 W	6,534	Sharkfin Shoal Light.
3	38 14 31.10	75 59 47.39	N 71 56 W	S 71 57 E	4,337	Croch.
			S 55 00 W	N 55 01 E	4,186	Head.
			S 10 38 E	N 10 38 W	4,922	Sharkfin Shoal Light.
4	38 13 30.68	75 59 55.08	S 83 34 W	N 83 33 E	3,245	Head.
			S 21 41 E	N 21 40 W	3,014	Sharkfin Shoal Light.
			N 74 07 E	S 74 10 W	4,972	Frog.

CLAY ISLAND.

(*Fishing Bay—Chart No. 41.*)

1	38 13 38.82	75 59 28.94	S 80 45 W	N 80 44 E	3,972	Head.
			S 7 44 E	N 7 44 W	3,104	Sharkfin Shoal Light.
			N 75 07 E	S 75 09 W	4,229	Frog.
2	38 14 21.04	75 59 32.36	S 61 42 W	N 61 41 E	4,348	Head.
			S 6 27 E	N 6 27 W	4,528	Sharkfin Shoal Light.
			S 85 23 E	N 85 21 W	4,192	Frog.
3	38 14 30.64	75 58 19.12	S 67 33 W	N 67 31 E	6,250	Head.
			S 16 38 W	N 16 37 E	5,033	Sharkfin Shoal Light.
			S 73 30 E	N 73 29 W	2,326	Frog.
4	38 13 50.82	75 58 50.54	S 78 05 W	N 78 03 E	5,050	Head.
			S 9 51 W	N 9 51 E	3,532	Sharkfin Shoal Light.
			N 77 27 E	S 77 26 W	3,141	Frog.

EVANS.

(*Fishing Bay—Chart No. 41.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 14 31.10	75 59 47.39	N 71 56 W	S 71 57 E	4,337	Croch.
			S 55 00 W	N 55 01 E	4,186	Head.
			S 10 38 E	N 10 38 W	4,922	Sharkfin Shoal Light.
2	38 14 47.44	76 01 32.07	N 59 25 W	S 59 25 E	1,556	Croch.
			S 12 19 W	N 12 19 E	3,021	Head.
			S 34 26 E	N 34 25 W	6,534	Sharkfin Shoal Light.
3	38 15 24.82	76 01 17.20	N 73 49 E	S 73 50 W	3,702	Fish.
			N 9 56 W	S 9 56 E	2,987	Roast.
			S 75 00 W	N 74 59 E	1,797	Croch.
4	38 15 43.82	76 00 57 10	N 82 37 E	S 82 36 W	3,046	Fish.
			N 24 31 W	S 24 31 E	2,528	Roast.
			S 64 02 W	N 64 01 E	2,525	Croch.
5	38 15 10.00	75 59 43.39	N 34 41 E	S 34 42 W	1,863	Fish.
			N 3 39 W	S 3 39 E	4,623	Ear.
			N 89 32 W	S 89 34 E	4,230	Croch.
6	38 14 44.60	75 59 23.83	S 54 51 W	N 54 49 E	4,961	Head.
			S 3 03 E	N 3 03 W	5,301	Sharkfin Shoal Light.
			S 74 01 E	N 74 00 W	4,110	Frog.

GOOSE CREEK.

(*Fishing Bay—Chart No. 41.*)

1	38 15 24.82	76 01 17.20	N 73 49 E	S 73 50 W	3,702	Fish.
			N 9 56 W	S 9 56 E	2,987	Roast.
			S 75 00 W	N 74 59 E	1,797	Croch.
2	38 15 52.25	76 01 56.97	S 26 00 W	N 26 00 E	1,546	Croch.
			N 88 41 E	S 88 43 W	4,613	Fish.
			N 15 03 E	S 15 03 W	2,089	Roast.
3	38 16 37.70	76 01 46.32	S 71 46 E	N 71 44 W	4,558	Fish.
			N 60 53 E	S 60 54 W	3,402	Ear.
			N 28 09 E	S 28 09 W	549	Roast.
4	38 16 39.67	76 00 32.78	S 57 51 E	N 57 50 W	2,803	Fish.
			N 32 38 E	S 32 39 W	1,888	Ear.
			N 11 43 W	S 11 43 E	3,905	Elliott.
5	38 15 43.82	76 00 57.10	N 82 37 E	S 82 38 W	3,046	Fish.
			N 24 31 W	S 24 31 E	2,528	Roast.
			S 64 02 W	N 64 01 E	2,525	Croch.

DUCK ISLAND.

(*Fishing Bay—Chart No. 41.*)

Corner of bar	Latitude	Longitude	True bearing: Forward	True bearing: Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 15 44.16	75 59 59.19	N 2 05 E	S 2 05 W	3,463	Ear.
			N 48 31 W	S 48 32 E	3,456	Roast.
			S 73 39 W	N 73 38 E	3,970	Croch.
2	38 15 58.34	76 00 14.96	N 10 21 E	S 10 21 W	3,033	Ear.
			N 59 08 W	S 50 09 E	2,826	Roast.
			S 64 48 W	N 64 47 E	3,747	Croch.
3	38 16 33.56	76 00 17.72	S 56 55 E	N 56 54 W	2,356	Fish.
			N 18 59 E	S 18 59 W	1,900	Ear.
			N 16 29 W	S 16 30 E	4,203	Elliott.
4	38 16 42.24	76 00 00.44	N 23 51 W	S 23 51 E	4,086	Elliott.
			N 82 37 W	S 82 38 E	2,577	Roast.
			S 50 50 W	N 50 48 E	4,870	Croch.
5	38 16 09.32	75 59 33.72	N 11 55 W	S 11 55 E	2,671	Ear.
			N 66 12 W	S 66 13 E	3,570	Roast.
			S 66 21 W	N 66 19 E	4,898	Croch.

BUNGAY.

(*Fishing Bay—Chart No. 41.*)

1	38 16 33.56	76 00 17.72	S 56 55 E	N 56 54 W	2,356	Fish.
			N 18 59 E	S 18 59 W	1,900	Ear.
			N 16 29 W	S 16 30 E	4,203	Elliott.
2	38 17 18.81	76 01 03.08	S 48 31 E	N 48 29 W	4,244	Fish.
			N 81 35 E	S 81 36 W	1,844	Ear.
			N 0 17 E	S 0 17 W	2,503	Elliott.
3	38 17 48.46	76 01 12.58	S 70 37 E	N 70 37 W	2,200	Ear.
			N 9 59 E	S 9 59 W	1,528	Elliott.
			N 50 09 W	S 50 10 E	3,259	Farm.
4	38 17 53.27	76 00 58.09	S 62 11 E	N 62 11 W	1,912	Ear.
			N 5 07 W	S 5 07 E	1,347	Elliott.
			N 56 18 W	S 56 19 E	3,471	Farm.
5	38 16 42.24	76 00 00.44	N 23 51 W	S 23 51 E	4,086	Elliott.
			N 82 37 W	S 82 38 E	2,577	Roast.
			S 50 50 W	N 50 48 E	4,870	Croch.

OLD HOUSE.

(*Fishing Bay—Chart No. 41.*)

Corner of bar	Latitude	Longitude	True bearing: Forward	True bearing: Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 17 24.57	76 01 45.83	N 88 32 E	S 88 33 W	2,960	Ear.
			N 26 26 E	S 26 26 W	2,580	Elliott.
			N 29 13 W	S 29 14 E	3,316	Farm.
2	38 17 30.80	76 01 56.02	S 87 37 E	N 87 35 W	3,234	Ear.
			N 34 03 E	S 34 03 W	2,535	Elliott.
			N 26 40 W	S 26 41 E	3,004	Farm.
3	38 18 27.98	76 01 48.36	S 5 32 E	N 5 32 W	3,249	Roast.
			N 81 57 E	S 81 57 W	1,228	Elliott.
			N 20 06 E	S 20 07 W	3,081	Thoro.
4	38 18 26.80	76 01 35.94	S 0 18 W	N 0 18 E	3,195	Roast.
			N 76 33 E	S 76 33 W	911	Elloitt.
			N 13 58 E	S 13 58 W	3,018	Thoro.

POINT.

(*Fishing Bay—Chart No. 41.*)

1	38 18 33.79	76 01 19.90	S 7 22 W	N 7 21 E	3,459	Roast.
			S 87 01 E	N 87 01 W	460	Elliott.
			N 6 24 E	S 6 25 W	2,713	Thoro.
2	38 18 36.44	76 01 24.92	S 5 02 W	N 5 02 E	3,533	Roast.
			S 79 11 E	N 79 11 W	604	Elliott.
			N 9 30 E	S 9 30 W	2,643	Thoro.
3	38 18 44.20	76 01 18.54	S 7 13 W	N 7 13 E	3,811	Roast.
			S 84 49 E	N 84 48 W	1,003	High.
			N 6 29 E	S 6 29 W	2,361	Thoro.
4	38 18 41.50	76 01 13.66	S 9 22 W	N 9 22 E	3,740	Roast.
			N 89 59 E	S 89 58 W	669	High.
			N 3 13 E	S 3 13 W	2,441	Thoro.

HILL.

(*Fishing Bay—Chart No. 41.*)

1	38 18 41.16	76 01 36.80	S 0 06 E	N 0 06 W	3,677	Roast.
			S 73 18 E	N 73 18 W	950	Elliott.
			N 17 04 E	S 17 04 W	2,501	Thoro.
2	38 18 49.24	76 01 47.96	S 4 23 E	N 4 23 W	3,963	Roast.
			S 65 40 E	N 65 40 W	1,322	Elliott.
			N 25 43 E	S 25 44 W	2,415	Thoro.
3	38 19 11.08	76 01 16.30	N 8 12 E	S 8 12 W	1,454	Thoro.
			S 73 49 W	N 73 48 E	2,502	Farm.
			S 6 33 W	N 6 33 E	4,719	Roast.
4	38 19 05.24	76 01 09.84	N 1 15 E	S 1 15 W	1,636	Thoro.
			S 79 00 W	N 78 59 E	2,624	Farm.
			S 8 59 W	N 8 59 E	4,547	Roast.

THOROUGH.

(*Fishing Bay—Chart No. 41.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 18 51.58	76 02 09.22	S 12 09 E	N 12 09 W	4,123	Roast.
			S 70 34 E	N 70 34 W	1,877	Elliott.
			N 37 34 E	S 37 35 W	2,645	Thoro.
2	38 19 08.52	76 02 28.22	S 16 37 E	N 16 36 W	4,802	Roast.
			S 62 17 E	N 62 16 W	2,570	Elliott.
			N 54 10 E	S 54 11 W	2,606	Thoro.
3	38 19 24.34	76 01 51.32	S 4 22 E	N 4 22 W	5,150	Roast.
			S 36 49 E	N 36 49 W	2,159	Elliott.
			N 48 54 E	S 48 55 W	1,506	Thoro.
4	38 19 10.48	76 01 41.70	S 1 40 E	N 1 40 W	4,670	Roast.
			S 39 28 E	N 39 28 W	1,634	Elliott.
			N 31 09 E	S 31 09 W	1,705	Thoro.

HALF WAY MARK.

(*Fishing Bay—Chart No. 41.*)

1	38 19 05.24	76 01 09.84	N 1 15 E	S 1 15 W	1,636	Thoro.
			S 79 00 W	N 78 59 E	2,624	Farm.
			S 8 59 W	N 8 59 E	4,547	Roast.
2	38 19 11.08	76 01 16.30	N 8 12 E	S 8 12 W	1,454	Thoro.
			S 73 49 W	N 73 48 E	2,502	Farm.
			S 6 33 W	N 6 33 E	4,719	Roast.
3	38 19 23.76	76 00 57.74	N 15 47 W	S 15 47 E	1,051	Thoro.
			S 68 46 W	N 68 45 E	3,108	Farm.
			S 17 24 E	N 17 24 W	1,493	High.
4	38 19 17.46	76 00 18.58	N 47 17 W	S 47 18 E	1,804	Thoro.
			S 76 57 W	N 76 55 E	4,041	Farm.
			S 38 01 W	N 38 01 E	1,900	Elliott.
5	38 19 05.54	76 01 00.18	N 7 44 W	S 7 44 E	1,641	Thoro.
			S 79 46 W	N 79 45 E	2,877	Farm.
			S 3 23 W	N 3 23 E	1,097	Elliott.

FLAT ROCK.

(*Fishing Bay—Chart No. 41.*)

1	38 19 17.46	76 00 18.58	N 47 17 W	S 47 18 E	1,804	Thoro.
			S 76 57 W	N 76 55 E	4,041	Farm.
			S 38 01 W	N 38 01 E	1,900	Elliott.
2	38 19 23.76	76 00 57.74	N 15 47 W	S 15 47 E	1,051	Thoro.
			S 68 46 W	N 68 45 E	3,108	Farm.
			S 17 24 E	N 17 24 W	1,493	High.
3	38 19 57.00	76 00 09.42	S 86 01 W	N 86 00 E	1,573	Thoro.
			S 61 45 W	N 61 43 E	4,746	Farm.
			S 18 13 W	N 18 12 E	2,679	High.
4	38 19 52.57	76 00 00.66	N 88 44 W	S 88 45 E	1,802	Thoro.
			S 64 35 W	N 64 33 E	4,886	Farm.
			S 24 05 W	N 24 05 E	2,622	High.

FROG POINT.

(Upper Tangier Sound—Chart No. 41.)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 13 29.62	75 57 27.69	S 45 27 W	N 45 25 E	3,941	Sharkfin Shoal Light.
			S 20 05 E	N 20 04 W	4,651	Room.
			N 31 41 E	S 31 41 W	1,641	Frog.
2	38 13 39.90	75 57 30.22	S 41 22 W	N 41 21 E	4,147	Sharkfin Shoal Light.
			S 19 26 E	N 19 26 W	5,000	Room.
			N 41 30 E	S 41 30 W	1,403	Frog.
3	38 13 46.05	75 56 49.90	N 9 37 W	S 9 37 E	855	Frog.
			S 48 58 W	N 48 56 E	5,057	Sharkfin Shoal Light.
			S 6 51 E	N 6 50 W	4,957	Room.
4	38 13 37.18	75 56 47.81	N 9 51 W	S 9 51 E	1,159	Frog.
			S 52 01 W	N 52 00 E	4,909	Sharkfin Shoal Light.
			S 6 36 E	N 6 36 W	4,653	Room.

NEW.

(Nanticoke River—Chart No. 41.)

1	38 15 07.92	75 56 01.04	N 41 30 E	S 41 30 W	2,020	Roar.
			N 29 39 W	S 29 39 E	2,093	Cow.
			S 36 57 W	N 36 56 E	2,399	Frog.
2	38 15 13.00	75 55 57.48	N 42 50 E	S 42 50 W	1,829	Roar.
			N 34 26 W	S 34 27 E	1,998	Cow.
			S 36 21 W	N 36 21 E	2,593	Frog.
3	38 15 09.30	75 55 53.30	N 37 41 E	S 37 41 W	1,852	Roar.
			N 35 00 W	S 35 02 E	2,164	Cow.
			S 40 00 W	N 40 00 E	2,563	Frog.

HILLS AND HOLES.

(Nanticoke River—Chart No. 41.)

1	38 15 23.48	75 55 55.68	N 50 26 E	S 50 26 W	1,552	Roar.
			N 42 26 W	S 42 27 E	1,754	Cow.
			S 32 59 W	N 32 58 E	2,911	Frog.
2	38 15 36.38	75 55 56.96	N 65 47 E	S 65 47 W	1,348	Roar.
			N 53 05 W	S 53 06 E	1,430	Cow.
			S 28 20 W	N 28 19 E	3,269	Frog.
3	38 15 34.76	75 55 49.04	N 59 11 E	S 59 12 W	1,187	Roar.
			N 55 59 W	S 56 00 E	1,634	Cow.
			S 31 58 W	N 31 58 E	3,327	Frog.

ROARING POINT WEST.

(*Nanticoke River—Chart No. 41.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 15 46.36	75 55 49.20	N 78 01 E	S 78 02 W	1,047	Roar.
			N 30 35 E	S 30 34 W	4,228	Rag.
			N 68 50 W	S 68 50 E	1,448	Cow.
2	38 16 07.10	75 55 50.68	S 82 20 W	N 82 20 E	1,323	Cow.
			S 65 35 E	N 65 35 W	1,167	Roar.
			N 36 41 E	S 36 42 W	3,667	Rag.
3	38 16 07.78	75 55 43.22	S 82 29 W	N 82 28 E	1,522	Cow.
			S 59 42 E	N 59 42 W	1,002	Roar.
			N 86 14 E	S 86 15 W	2,083	Nanticoke Church.

Thence along county boundary as delineated on Chart No. 41 to corner No. 1.

BEAN SHOAL.

(*Nanticoke River—Chart No. 41.*)

1	38 17 32.06	75 55 52.90	S 40 49 E	N 40 48 W	3,574	Nanticoke Church.
			N 88 05 E	S 88 05 W	2,251	Rag.
			N 22 07 W	S 22 07 E	1,424	Okay.
2	38 17 38.48	75 56 00.78	S 41 03 E	N 41 03 W	3,876	Nanticoke Church.
			S 86 42 E	N 86 41 W	2,463	Rag.
			N 16 30 W	S 16 30 E	1,149	Okay.
3	38 17 44.04	75 55 52.22	S 36 42 E	N 36 41 W	3,878	Nanticoke Church.
			S 81 38 E	N 81 37 W	2,255	Rag.
			N 31 12 W	S 31 12 E	1,070	Okay.

OUTER HOLE.

(*Nanticoke River—Chart No. 41.*)

1	38 17 33.54	75 55 22.32	S 28 56 E	N 28 56 W	3,148	Nanticoke Church.
			N 61 53 E	S 61 54 W	3,612	Bivalve Church.
			N 46 44 W	S 46 45 E	1,851	Okay.
2	38 17 49.98	75 55 33.62	S 28 51 E	N 28 50 W	3,778	Nanticoke Church.
			N 71 46 E	S 71 47 W	3,670	Bivalve Church.
			N 55 43 W	S 55 43 E	1,269	Okay.
3	38 17 55.16	75 55 18.02	N 69 44 W	S 69 44 E	1,559	Okay.
			S 2 42 E	N 2 42 W	4,131	Roar.
			S 61 59 E	N 61 58 W	1,498	Rag.

Thence along county boundary as delineated on Chart No. 41 to corner No. 1.

LOWER NEWFOUNDLAND.

(Nanticoke River—Chart No. 41.)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 19 10.26	75 54 48.56	S 55 45 E	N 55 44 W	2,769	Bivalve Church.
			N 69 30 E	S 69 31 W	3,088	Juliet.
			N 66 21 W	S 66 22 E	1,008	Ar.
2	38 19 18.72	75 54 40.88	S 48 30 E	N 48 30 W	2,783	Bivalve Church.
			N 73 30 E	S 73 31 W	2,805	Juliet.
			N 83 59 W	S 83 59 E	1,134	Ar.
3	38 19 15.10	75 54 36.78	S 48 56 E	N 48 55 W	2,615	Bivalve Church.
			N 70 24 E	S 70 25 W	2,738	Juliet.
			N 78 58 W	S 78 58 E	1,260	Ar.

UPPER NEWFOUNDLAND.

(Nanticoke River—Chart No. 41.)

1	38 19 22.74	75 54 37.36	S 45 10 E	N 45 09 W	2,807	Bivalve Church.
			N 75 43 E	S 75 44 W	2,678	Juliet.
			S 89 13 W	N 89 13 E	1,220	Ar.
2	38 19 31.22	75 54 34.46	S 40 12 E	N 40 11 W	2,966	Bivalve Church.
			N 81 32 E	S 81 32 W	2,547	Juliet.
			S 76 53 W	N 76 52 E	1,332	Ar.
3	38 19 34.96	75 54 25.58	S 35 03 E	N 35 04 W	2,928	Bivalve Church.
			N 83 46 E	S 83 47 W	2,297	Juliet.
			S 74 23 W	N 74 23 E	1,592	Ar.
4	38 19 28.28	75 54 22.42	S 36 21 E	N 36 20 W	2,690	Bivalve Church.
			N 77 49 E	S 77 50 W	2,250	Juliet.
			S 82 50 W	N 82 50 E	1,631	Ar.

NORTHWEST MIDDLEGROUND.

(Chesapeake Bay—Off Holland Island—Chart No. 42.)

1	38 06 15.00	76 10 16.74	S 59 10 E	N 59 07 W	8,409	Holland Island Bar Light.
			N 76 16 E	S 76 19 W	8,292	Holland Island Church
			N 36 52 E	S 36 55 W	12,872	Okahanikan. [Spire.
2	38 06 26.08	76 12 00.79	S 64 53 E	N 64 57 W	11,039	Holland Island Bar Light.
			N 81 26 E	S 81 30 W	10,948	Holland Island Church
			N 46 34 E	S 46 38 W	14,448	Okahanikan. [Spire.
3	38 08 03.16	76 11 24.40	S 48 36 E	N 48 32 W	12,032	Holland Island Bar Light.
			S 80 20 E	N 80 16 W	9,999	Holland Island Church
			N 55 02 E	S. 55 06 W	11,621	Okahanikan. [Spire.
4	38 07 38.78	76 10 49.45	S 48 36 E	N 48 33 W	10,789	Holland Island Bar Light.
			S 84 31 E	N 84 28 W	8,966	Holland Island Church
			N 48 58 E	S 49 01 W	11,392	Okahanikan. [Spire.

SOUTHEAST MIDDLEGROUND.

(Chesapeake Bay—Off Holland Island—Chart No. 42.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 05 41. 56	76 09 36. 60	S 62 39 E	N 62 37 W	6, 925	Holland Island Bar Light.
			N 66 05 E	S 66 08 W	7, 641	Holland Island Church
			N 30 13 E	S 30 16 W	13, 222	Okahanikan. [Spire.
2	38 06 15. 00	76 10 16. 74	S 59 10 E	N 59 07 W	8, 409	Holland Island Bar Light.
			N 76 16 E	S 76 19 W	8, 292	Holland Island Church
			N 36 52 E	S 36 55 W	12, 872	Okahanikan. [Spire.
3	38 06 29. 56	76 09 05. 00	S 47 53 E	N 47 51 W	7, 157	Holland Island Bar Light.
			N 76 28 E	S 76 30 W	6, 319	Holland Island Church
			N 30 39 E	S 30 42 W	11, 401	Okahanikan. [Spire.
4	38 05 51. 32	76 08 46. 80	S 53 57 E	N 53 56 W	5, 964	Holland Island Bar Light.
			N 63 55 E	S 63 58 W	6, 300	Holland Island Church
			N 25 39 E	S 25 41 W	12, 311	Okahanikan. [Spire.

BOUNDARY.

(Entrance to Kedge Straits—Chart No. 42.)

1	38 04 34. 32	76 04 32. 26	S 65 05 W	N 65 04 E	2, 164	Holland Island Bar Light.
			S 33 24 E	N 33 24 W	5, 903	Fog 2.
			S 59 26 E	N 59 24 W	6, 730	Solomons Lump Light.
2	38 04 40. 24	76 04 39. 44	S 57 52 W	N 57 52 E	2, 091	Holland Island Bar Light.
			S 33 52 E	N 33 50 W	6, 177	Fog 2.
			S 58 49 E	N 58 47 W	6, 997	Solomons Lump Light.
3	38 05 12. 18	76 04 05. 82	S 50 37 W	N 50 36 E	3, 450	Holland Island Bar Light.
			S 22 18 E	N 22 17 W	6, 707	Fog 2.
			S 47 17 E	N 47 15 W	6, 927	Solomons Lump Light.
4	38 05 10. 20	76 04 00. 70	S 52 53 W	N 52 52 E	3, 516	Holland Island Bar Light.
			S 21 25 E	N 21 24 W	6, 593	Fog 2.
			S 46 56 E	N 46 54 W	6, 780	Solomons Lump Light.
	Thence along county boundary as delineated on Chart No. 42 to corner No. 5.					
5	38 04 40. 76	76 04 14. 80	S 65 04 W	N 65 03 E	2, 677	Holland Island Bar Light.
			S 28 28 E	N 28 27 W	5, 840	Fog 2.
			S 55 41 E	N 55 39 W	6, 452	Solomons Lump Light.
	Thence along county boundary as delineated on Chart No. 42 to corner No. 1.					

HOLLAND STRAITS.

(Holland Straits—Chart No. 42.)

Corner of bar	Latitude	Longitude	True bearing: Forward	True bearing: Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 05 14.62	76 04 36.82	N 14 01 W	S 14 02 E	4,132	Holland Island Church Spire.
			S 39 01 W	N 39 01 E	2,923	Holland Island Bar Light.
			S 51 03 E	N 51 02 W	7,607	Solomons Lump Light.
2	38 05 45.96	76 05 15.10	S 13 51 W	N 13 51 E	3,427	Holland Island Bar Light.
			S 49 55 E	N 49 52 W	9,067	Solomons Lump Light.
			N 0 22 E	S 0 22 W	2,951	Holland Island Church Spire.
3	38 06 20.12	76 04 58.40	N 62 42 E	S 62 44 W	7,636	Senator.
			N 13 19 W	S 13 19 E	1,849	Holland Island Church Spire.
			S 15 47 W	N 15 46 E	4,654	Holland Island Bar Light.
4	38 06 57.60	76 04 39.70	N 70 23 E	S 70 25 W	6,674	Senator.
			N 59 53 W	S 59 53 E	1,068	Holland Island Church Spire.
			S 17 04 W	N 17 04 E	6,007	Holland Island Bar Light.
5	38 07 50.85	76 04 48.22	S 28 55 W	N 28 54 E	1,441	Holland Island Church Spire.
			S 11 31 W	N 11 31 E	7,695	Holland Island Bar Light.
			N 86 06 E	S 86 08 W	6,529	Senator.
6	38 08 09.80	76 04 39.00	S 26 25 W	N 26 24 E	2,119	Holland Island Church Spire.
			S 12 18 W	N 12 17 E	8,370	Holland Island Bar Light.
			S 88 13 E	N 88 12 W	6,271	Senator.
7	38 08 19.36	76 03 50.91	S 45 02 W	N 45 01 E	3,143	Holland Island Church Spire.
			S 19 50 W	N 19 48 E	9,035	Holland Island Bar Light.
			S 84 05 E	N 84 03 W	5,014	Senator.
8	38 07 53.56	76 04 28.45	S 42 11 W	N 42 10 E	1,823	Holland Island Church Spire.
			S 15 08 W	N 15 07 E	7,905	Holland Island Bar Light.
			N 86 38 E	S 86 39 W	5,997	Senator.
9	38 06 44.38	76 04 31.24	N 66 06 E	S 66 08 W	6,630	Senator.
			N 49 30 W	S 49 32 E	1,511	Holland Island Church Spire.
			S 20 35 W	N 20 34 E	5,659	Holland Island Bar Light.
10	38 06 13.50	76 04 44.66	N 59 52 E	S 59 54 W	7,422	Senator.
			N 21 23 W	S 21 23 E	2,173	Holland Island Church Spire.
			S 20 59 W	N 20 58 E	4,558	Holland Island Bar Light.
11	38 06 03.55	76 04 48.96	N 16 01 W	S 16 02 E	2,454	Holland Island Church Spire.
			S 21 09 W	N 21 09 E	4,204	Holland Island Bar Light.
			S 44 08 E	N 44 06 W	8,961	Solomons Lump Light.
12	38 05 29.14	76 04 20.70	N 22 07 W	S 22 08 E	3,798	Holland Island Church Spire.
			S 39 26 W	N 39 25 E	3,575	Holland Island Bar Light.
			S 46 09 E	N 46 07 W	7,608	Solomons Lump Light.

BOUNDARIES OF CRAB BOTTOMS.

EXPLANATION.

The laws providing for the survey of the oyster bars of Maryland also contain a section which requires "an accurate survey of and delineation upon the maps and charts aforesaid of all bottoms of the tributaries of the Chesapeake Bay where grass grows and it is profitable to scrape for soft shell or shedder crabs, and shall have such bottoms properly designated by permanent objects on the shore, as provided hereinbefore for natural oyster beds, bars, and rocks, which said crabbing sections shall be exempt from leasing for oyster culture."

As far as is known, the crab bottoms of Maryland [1] were the first of their kind to be surveyed and therefore they presented a new problem, which was found to differ [2] in many ways from that of a survey of oyster bars.

In a general way, it can be stated that the boundaries of the crab bottoms as established by the Maryland Shell Fish Commission and delineated on the "Maryland Oyster Charts" published by the Coast and Geodetic Survey, are confined to waters between the 1-fathom contour (6 feet depth of water) and the shore line. Therefore, in most cases the mean low water line of the shore has been adopted as an inner boundary for the crab bottoms, but the same system of straight lines and numbered corners used to delineate the oyster bars has been retained for defining the off-shore water boundaries.

The boundaries of the crab bottoms of Maryland, as established by the Shell Fish Commission and shown on the Coast and Geodetic Survey charts and projections and on the "leasing charts" of the Commission, are technically defined and described by a method but little different from that used for the description of the boundaries of oyster bars.

METHOD OF DESCRIBING BOUNDARIES.

The descriptions have been arranged in tabular form, thus avoiding many hundred repetitions of the same words by making one explanation of the tables sufficient for all crab bottoms in each county.

Title.—At the top of each tabular form is given the legal name of the crab bottom to be described, and the one by which it is known and designated in the published records and on the oyster charts. The adopted name of the crab bottom is the one used locally, as nearly as could be ascertained by the hydrographic engineer of the Commission; and when there was no local name in common use, a name was selected from one of the prominent features of the vicinity that would naturally suggest the section of the waters where the crab bottom was located.

Underneath the name, in parentheses, is given the general locality of the crab bottom and the serial number of the "Maryland Oyster Chart," on which its legal boundaries are shown.[3]

First column.—This column, under the heading of "Corner of bottom," gives the number corresponding to the corner of the boundary as shown on the charts and to the

[1] Crab bottoms within the meaning of the laws of Maryland were found only in Somerset and Dorchester Counties.

[2] See pages 69 to 70 of "First Annual Report of Maryland Shell Fish Commission" for description of "Survey of crabbing grounds."

[3] These charts can be obtained by application to the Superintendent of the Coast and Geodetic Survey at Washington, D. C.

number on the buoy marking the actual corner of the bottom. The numbers of the corners have been assigned by naming the southernmost point No. 1, thence proceeding in a clockwise direction around the bottom. Where a corner of a crab bottom is identical with the corner of the boundaries of one or more other crab bottoms or oyster bars, only the number of the corner of the crab bottom being described in the table is given in this column.

Second and third columns.—These two columns, under the headings of "Latitude" and "Longitude," give the geographic positions of the corners. These positions have been adopted by the Commission as the primary technical definition of the location of the corners, and should be considered as final in case of a dispute arising from discrepancies caused by other means of location. The latitudes and longitudes given in these columns are based on the United States standard datum of the Coast and Geodetic Survey, and the points thus defined can be relocated from distant triangulation stations of the survey, even though all the landmarks and buoys originally used for their location have been destroyed by natural or other causes.

Fourth and fifth columns.—These two columns, under the general heading of "True bearing" [1] and the specific headings "Forward" and "Back," give bearings measured from a true north-and-south line. The three "Forward" bearings are from the corner of the boundary designated in the first column to the triangulation stations named on the corresponding lines in the last column, and the three "Back" bearings are from these same stations in the last column to the corresponding corner of boundary in the first column. The difference in minutes or arc between the forward and back bearings shown in some cases is actual and not accidental, and is due to the fact that the computations took into account the spheroidal shape of the earth.

Sixth column.—This column, under the heading of "Distance," gives the three computed distances in yards from the corner of the bottom noted in the first column to the three triangulation stations named on the corresponding lines in the last column, and vice versa.

Seventh column.—This column, under the heading of "U. S. C. & G. S. triangulation station," [2] gives the names of the landmarks from which were computed the corresponding "Latitude," "Longitude," "True bearing," and "Distance" of the "Corner of bottom" designated in the first column. A full description of the location and markings of these triangulation stations is given in another part of this publication under the heading of "Descriptions of Triangulation Stations."

Notes.—The descriptive notes relating to the shore line boundaries which appear between the descriptions of corners located on land require no explanation other than the statement that the laws of Maryland reserve to riparian owners all waters of "any creek, cove, or inlet less than one hundred yards in width at its mouth at low tide."

SURVEYING METHODS FOR RELOCATION OF BOUNDARIES.

There are a number of methods that can be used in the relocation of the actual boundaries of the crab bottoms as technically described in this publication and delineated on the published charts of the Coast and Geodetic Survey, and the "leasing charts" of the Maryland Shell Fish Commission, but as they are practically the same as those

[1] The mean magnetic variation for Dorchester County was 6° 00′ west of north in 1911 and increasing at the rate of 5′ yearly.

[2] Geographic positions of these triangulation stations can be obtained by application to the Superintendent of the Coast and Geodetic Survey, Washington, D. C.

required for the relocation of oyster-bar boundaries, the description of the "Surveying Methods for Relocation of Boundaries" given in this publication under the heading of "Boundaries of Oyster Bars" will be sufficient to indicate several methods that can be used in the relocation of crab-bottom boundaries.

BOUNDARIES OF CRAB BOTTOMS.

FOX CREEK.

(*Honga River—Chart No. 40.*)

Corner of bottom	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 16 57.05	76 07 36.02	S 59 07 W	N 59 06 E	2,533	Windmill 2
			S 33 12 E	N 33 11 W	410	Paul.
			S 75 42 E	N 75 41 W	2,374	Duck
	Thence from corner No. 1 along the mean low-water line of the shore to corner No. 2, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
2	38 17 52.78	76 06 35.64	S 49 55 W	N 49 54 E	4,939	Windmill 2
			S 31 51 W	N 31 51 E	2,616	Paul.
			S 15 46 E	N 15 46 W	2,562	Duck.
3	38 17 55.54	76 06 27.32	S 50 42 W	N 50 41 E	5,168	Windmill 2.
			S 34 41 W	N 34 40 E	2,815	Paul.
			S 10 31 E	N 10 31 W	2,602	Duck.
	Thence from corner No. 3 along the mean low-water line of the shore to corner No. 4, excluding any creek, cove, or inlet less than 100 yards in width at its moutn at low tide.					
4	38 17 20.78	76 06 46.32	S 59 00 W	N 58 58 E	4,077	Windmill 2.
			S 43 49 W	N 43 48 E	1,584	Paul.
			S 35 15 E	N 35 15 W	1,697	Duck.
5	38 17 13.78	76 07 01.00	S 59 01 W	N 59 00 E	3,621	Windmill 2.
			S 37 55 W	N 37 55 E	1,149	Paul.
			S 49 59 E	N 49 59 W	1,789	Duck.

WINGATE.

(*Honga River—Chart No. 40.*)

1	38 16 28.98	76 06 26.00	S 10 16 E	N 10 16 W	2,138	Norman.
			N 50 39 E	S 50 39 W	569	Duck.
			N 69 46 W	S 69 46 E	1,744	Paul.
2	38 16 48.48	76 06 33.10	S 87 52 W	N 87 51 E	1,449	Paul.
			S 11 39 E	N 11 39 W	2,820	Norman.
			S 64 42 E	N 64 42 W	696	Duck.
3	38 17 13.78	76 07 01.00	S 59 01 W	N 59 00 E	3,621	Windmill 2.
			S 37 55 W	N 37 55 E	1,149	Paul.
			S 49 59 E	N 49 59 W	1,789	Duck.
4	38 17 20.78	76 06 46.32	S 59 00 W	N 58 58 E	4,077	Windmill 2.
			S 43 49 W	N 43 48 E	1,584	Paul.
			S 35 15 E	N 35 15 W	1,697	Duck.
	Thence from corner No. 4 along the mean low-water line of the shore to corner No. 5, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
5	38 16 39.67	76 06 09.46	S 80 57 W	N 80 55 E	4,531	Windmill 2.
			S 1 22 W	N 1 22 E	2,466	Norman.
			S 63 20 E	N 63 19 W	3,154	St. Thomas Church Spire.

DUCK POINT COVE.

(Honga River—Chart No. 40.)

Corner of bottom	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 15 48.74	76 05 35.62	N 27 39 W	S 27 39 E	1,939	Duck.
			N 56 38 W	S 56 39 E	3,563	Paul.
			S 52 03 W	N 52 03 E	1,215	Norman.
2	38 16 19.95	76 05 54.86	N 30 16 W	S 30 16 E	770	Duck.
			N 69 47 W	S 69 48 E	2,627	Paul.
			S 13 57 W	N 13 57 E	1,855	Norman.
3	38 16 28.98	76 06 26.00	S 10 16 E	N 10 16 W	2,138	Norman.
			N 50 39 E	S 50 39 W	569	Duck.
			N 69 46 W	S 69 46 E	1,744	Paul.
4	38 16 39.67	76 06 09.46	S 80 57 W	N 80 55 E	4,531	Windmill 2.
			S 1 22 W	N 1 22 E	2,466	Norman.
			S 63 20 E	N 63 19 W	3,154	St. Thomas Church Spire.
	Thence from corner No. 4 along the mean low-water line of the shore to corner No. 5, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
5	38 16 44.75	76 05 19.00	S 82 43 W	N 82 43 E	1,352	Duck.
			S 81 20 W	N 81 18 E	5,884	Windmill 2.
			S 27 59 W	N 27 58 E	2,986	Norman.
6	38 16 38.01	76 05 11.42	N 87 55 W	S 87 56 E	1,544	Duck.
			S 83 45 W	N 83 42 E	6,053	Windmill 2.
			S 33 38 W	N 33 37 E	2,893	Norman.
	Thence from corner No. 6 along the mean low-water line of the shore to corner No. 7, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
7	38 16 12.97	76 04 48.16	N 67 23 W	S 67 24 E	2,341	Duck.
			N 74 55 W	S 74 56 E	4,389	Paul.
			S 54 49 W	N 54 49 E	2,717	Norman.
8	38 16 03.79	76 04 45.18	N 61 38 W	S 61 39 E	2,546	Duck
			N 71 25 W	S 71 26 E	4,555	Paul.
			S 61 22 W	N 61 21 E	2,620	Norman.
	Thence from corner No. 8 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					

JENNY ISLAND.

(Hooper Strait—Charts Nos. 40 and 41.)

1	38 13 13.92	76 03 13.52	S 70 42 E	N 70 40 W	6,774	Sharkfin Shoal Light.
			N 84 23 E	S 84 24 W	2,064	Head.
			N 70 25 W	S 70 26 E	2,247	Hooper Strait Light.
2	38 13 22.80	76 03 51.18	N 67 53 W	S 67 53 E	1,204	Hooper Strait Light.
			N 81 11 W	S 81 13 E	7,327	Applegarth.
			S 31 37 W	N 31 36 E	4,844	Okahanikan.
3	38 13 52.32	76 04 14.88	N 88 53 W	S 88 55 E	6,611	Applegarth.
			S 41 48 W	N 41 47 E	727	Hooper Strait Light.
			S 20 26 W	N 20 25 E	5,464	Okahanikan.
4	38 14 06.46	76 04 02.62	S 87 08 W	N 87 05 E	6,944	Applegarth.
			S 38 31 W	N 38 30 E	1,302	Hooper Strait Light.
			S 21 46 W	N 21 45 E	6,026	Okahanikan.
	Thence from corner No. 4 along the mean low water line of the shore to corner No. 5, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
5	38 13 24.50	76 03 00.86	N 80 49 W	S 80 50 E	2,486	Hooper Strait Light.
			N 82 55 W	S 82 58 E	8,644	Applegarth.
			S 42 50 W	N 42 51 E	5,703	Okahanikan.

OKAHANIKAN.

(*Hooper Strait—Charts Nos. 40, 41, and 42.*)

Corner of bottom.	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 11 40.58	76 05 25.20	N 19 34 E	S 19 34 W	4,139	Hooper Strait Light.
			N 46 02 W	S 46 03 E	6,586	Applegarth.
			S 3 05 W	N 3 05 E	678	Okahanikan.
2	38 11 53.24	76 05 37.34	N 26 12 E	S 26 13 W	3,870	Hooper Strait Light.
			N 46 49 W	S 46 50 E	6,057	Applegarth.
			S 14 33 E	N 14 33 W	1,142	Okahanikan.
3	38 12 54.98	76 03 37.04	S 77 10 E	N 77 07 W	7,199	Sharkfin Shoal Light.
			N 72 35 E	S 72 37 W	2,808	Head.
			N 46 59 W	S 47 00 E	2,040	Hooper Strait Light.
4	38 12 34.28	76 03 38.26	S 82 43 E	N 82 40 W	7,108	Sharkfin Shoal Light.
			N 60 26 E	S 60 27 W	3,118	Head.
			N 34 55 W	S 34 56 E	2,548	Hooper Strait Light.
	Thence from corner No. 4 along the mean low water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					

GRASSY.

(*Hooper Strait—Charts Nos. 40 and 41.*)

1	38 12 20.54	76 03 02.14	S 85 53 E	N 85 51 W	6,107	Sharkfin Shoal Light.
			N 41 11 E	S 41 12 W	2,660	Head.
			N 43 28 W	S 43 29 E	3,517	Hooper Strait Light.
	Thence from corner No. 1 along the mean low water line of the shore to corner No. 2, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
2	38 12 34.28	76 03 38.26	S 82 43 E	N 82 40 W	7,108	Sharkfin Shoal Light.
			N 60 26 E	S 60 27 W	3,118	Head.
			N 34 55 W	S 34 56 E	2,548	Hooper Strait Light.

BISHOP HEAD.

(*Hooper Strait—Chart No. 41.*)

1	38 12 22.84	76 01 56.04	S 83 14 W	N 83 12 E	4,362	Sharkfin Shoal Light.
			N 0 12 W	S 0 12 E	1,925	Head.
			N 59 22 W	S 59 23 E	4,856	Hooper Strait Light.
2	38 12 36.16	76 02 02.08	S 77 54 E	N 77 52 W	4,595	Sharkfin Shoal Light.
			N 5 57 E	S 5 57 W	1,484	Head.
			N 63 15 W	S 63 17 E	4,498	Hooper Strait Light.
3	38 12 48.03	76 02 15.00	S 74 15 E	N 74 13 W	5,025	Sharkfin Shoal Light.
			N 24 50 E	S 24 50 W	1,184	Head.
			N 66 08 W	S 66 10 E	4,017	Hooper Strait Light.
4	38 12 58.42	76 02 26.23	S 71 32 E	N 71 30 W	5,413	Sharkfin Shoal Light.
			N 47 41 E	S 47 41 W	1,076	Head.
			N 69 18 W	S 69 19 E	3,608	Hooper Strait Light.

BISHOP HEAD—Continued.

(*Hooper Strait—Chart No. 41*)—Continued.

Corner of bottom.	Latitude	Longitude	True bearing: Forward	True bearing: Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
5	38 13 04.22	76 02 32.48	S 70 11 E	N 70 09 W	5,635	Sharkfin Shoal Light.
			N 61 11 E	S 61 12 W	1,098	Head.
			N 71 24 W	S 71 25 E	3,387	Hooper Strait Light.
6	38 13 13.92	76 03 13.52	S 70 42 E	N 70 40 W	6,774	Sharkfin Shoal Light.
			N 84 23 E	S 84 24 W	2,064	Head.
			N 70 25 W	S 70 26 E	2,247	Hooper Strait Light.
7	38 13 24.50	76 03 00.86	N 80 49 W	S 80 50 E	2,486	Hooper Strait Light.
			N 82 55 W	S 82 58 E	8,644	Applegarth.
			S 42 50 W	N 42 51 E	5,703	Okahanikan.
	Thence from corner No. 7 along the mean low-water line of the shore to corner No. 8, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
8	38 12 53.00	76 01 56.41	S 70 34 E	N 70 33 W	4,604	Sharkfin Shoal Light.
			N 0 11 E	S 0 11 W	908	Head.
			N 70 43 W	S 70 45 E	4,416	Hooper Strait Light.
9	38 12 57.84	76 01 40.72	S 66 39 E	N 66 37 W	4,275	Sharkfin Shoal Light.
			N 72 00 E	S 72 03 W	7,982	Frog.
			N 29 06 W	S 29 06 E	852	Head.
10	38 12 24.96	76 01 41.42	S 81 33 E	N 81 32 W	3,986	Sharkfin Shoal Light.
			N 12 03 W	S 12 04 E	1,895	Head.
			N 62 15 W	S 62 17 E	5,160	Hooper Strait Light.

BLOODSWORTH ISLAND.

(*Hooper Strait—Charts Nos. 41 and 42.*)

1	38 10 56.72	76 01 30.98	N 56 54 E	S 56 55 W	4,375	Sharkfin Shoal Light.
			N 7 56 W	S 7 57 E	4,875	Head.
			N 42 02 W	S 42 03 E	7,237	Hooper Strait Light.
	Thence from corner No. 1 along the mean low-water line of the shore to corner No. 2, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
2	38 12 20.54	76 03 02.14	S 85 53 E	N 85 51 W	6,107	Sharkfin Shoal Light.
			N 41 11 E	S 41 12 W	2,660	Head.
			N 43 28 W	S 43 29 E	3,517	Hooper Strait Light.
3	38 12 24.55	76 02 57.30	S 84 30 E	N 84 28 W	5,990	Sharkfin Shoal Light.
			N 41 00 E	S 41 00 W	2,474	Head.
			N 46 31 W	S 46 32 E	3,513	Hooper Strait Light.
4	38 12 12.66	76 02 41.75	S 88 13 E	N 88 11 W	5,551	Sharkfin Shoal Light.
			N 28 04 E	S 28 04 W	2,570	Head.
			N 46 26 W	S 46 27 E	4,088	Hooper Strait Light.
5	38 11 40.82	76 02 00.26	N 78 31 E	S 78 33 W	4,535	Sharkfin Shoal Light.
			N 1 48 E	S 1 48 W	3,343	Head.
			N 46 15 W	S 46 14 E	5,627	Hooper Strait Light.
6	38 11 25.80	76 01 22.21	N 67 41 E	S 67 42 W	3,709	Sharkfin Shoal Light.
			N 13 16 W	S 13 16 E	3,953	Head.
			N 49 07 W	S 49 09 E	6,717	Hooper Strait Light.

GREAT COVE.

(Upper Tangier Sound—Charts Nos. 41 and 42.)

Corner of bottom	Latitude	Longitude	True bearing: Forward	True bearing: Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 08 50.58	76 01 53.42	S 32 59 W	N 32 56 E	11,384	Holland Island Bar Light.
			S 20 28 E	N 20 27 W	6,653	Miles.
			S 49 51 E	N 49 50 W	2,431	Senator.
Thence from corner No. 1 along the mean low-water line of the shore to corner No. 2, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.						
2	38 10 56.72	76 01 30.98	N 56 54 E	S 56 55 W	4,375	Sharkfin Shoal Light.
			N 7 56 W	S 7 57 E	4,875	Head.
			N 42 02 W	S 42 03 E	7,237	Hooper Strait Light.
3	38 11 25.80	76 01 22.21	N 67 41 E	S 67 42 W	3,709	Sharkfin Shoal Light.
			N 13 16 W	S 13 16 E	3,953	Head.
			N 49 07 W	S 49 09 E	6,717	Hooper Strait Light.
4	38 11 25.80	76 00 45.38	S 88 22 E	N 88 19 W	6,861	Room.
			N 60 06 E	S 60 07 W	2,828	Sharkfin Shoal Light.
			N 26 07 W	S 26 08 E	4,286	Head.
5	38 11 25.83	76 00 19.40	S 88 11 E	N 88 07 W	6,170	Room.
			N 51 20 E	S 51 21 W	2,255	Sharkfin Shoal Light.
			N 33 50 W	S 33 51 E	4,630	Head.
6	38 10 15.54	75 59 41.40	N 11 13 E	S 11 13 W	3,853	Sharkfin Shoal Light.
			N 77 45 W	S 77 46 E	2,587	Crab.
			S 20 31 W	N 20 30 E	4,732	Senator.
7	38 09 26.74	76 00 23.48	S 10 55 W	N 10 55 E	2,838	Senator.
			S 87 10 E	N 87 07 W	5,546	Deal Island Church.
			N 32 41 W	S 32 41 E	2,607	Crab.
Thence along county boundary as delineated on Chart Nos. 41 and 42 to corner No. 1.						

NORTHEAST ISLAND.

(Holland Straits—Chart No. 42.)

1	38 08 19.36	76 03 50.91	S 45 02 W	N 45 01 E	3,143	Holland Island Church Spire.
			S 19 50 W	N 19 48 E	9,035	Holland Island Bar Light.
			S 84 05 E	N 84 03 W	5,014	Senator.
2	38 08 56.20	76 04 11.50	S 25 49 W	N 25 48 E	3,847	Holland Island Church Spire.
			S 14 29 W	N 14 28 E	10,062	Holland Island Bar Light.
			S 72 22 E	N 72 20 W	5,808	Senator.
Thence from corner No. 2 along the mean low water line of the shore to corner No. 3, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.						
3	38 09 16.60	76 04 28.12	S 16 32 W	N 16 32 E	4,330	Holland Island Church Spire.
			S 11 14 W	N 11 14 E	10,634	Holland Island Bar Light.
			S 67 44 E	N 67 42 W	6,460	Senator.
4	38 09 30.80	76 04 19.64	S 17 29 W	N 17 29 E	4,853	Holland Island Church Spire.
			S 11 54 W	N 11 53 E	11,148	Holland Island Bar Light.
			S 63 03 E	N 63 00 W	6,453	Senator.
Thence from corner No. 4 along the mean low water line of the shore to corner No. 5, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.						
5	38 08 49.36	76 03 08.60	S 46 02 W	N 46 00 E	4,657	Holland Island Church Spire.
			S 23 18 W	N 23 17 E	10,395	Holland Island Bar Light.
			S 68 25 E	N 68 24 W	4,151	Senator.

ADAM ISLAND.

(*Holland Straits—Chart No. 42.*)

Corner of bottom	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 08 09.80	76 04 39.00	S 26 25 W	N 26 24 E	2,119	Holland Island Church Spire.
			S 12 18 W	N 12 17 E	8,370	Holland Island Bar Light.
			S 88 13 E	N 88 12 W	6,271	Senator.
2	38 08 16.36	76 05 08.96	S 6 41 W	N 6 41 E	8,457	Holland Island Bar Light.
			S 3 54 W	N 3 54 E	2,125	Holland Island Church Spire.
			S 86 38 E	N 86 35 W	7,078	Senator.
	Thence from corner No. 2 along the mean low water line of the shore to corner No. 3, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
3	38 09 14.66	76 05 14.00	S 0 09 W	N 0 09 E	4,081	Holland Island Church Spire.
			S 71 42 E	N 71 39 W	7,584	Senator.
			N 4 31 W	S 4 31 E	4,255	Okahanikan.
4	38 09 23.78	76 05 09.08	S 1 51 W	N 1 51 E	4,395	Holland Island Church Spire.
			S 69 10 E	N 69 07 W	7,563	Senator.
			N 6 45 W	S 6 45 E	3,962	Okahanikan.
	Thence from corner No. 4 along the mean low water line of the shore to corner No. 5, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
5	38 09 30.80	76 04 19.64	S 17 29 W	N 17 29 E	4,853	Holland Island Church Spire.
			S 11 54 W	N 11 53 E	11,148	Holland Island Bar Light.
			S 63 03 E	N 63 00 W	6,453	Senator.
6	38 09 16.60	76 04 28.12	S 16 32 W	N 16 32 E	4,330	Holland Island Church Spire.
			S 11 14 W	N 11 14 E	10,634	Holland Island Bar Light.
			S 67 44 E	N 67 42 W	6,460	Senator.
	Thence from corner No. 6 along the mean low water line of the shore to corner No. 7, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
7	38 08 56.20	76 04 11.50	S 25 49 W	N 25 48 E	3,847	Holland Island Church Spire.
			S 14 29 W	N 14 28 E	10,062	Holland Island Bar Light.
			S 72 22 E	N 72 20 W	5,808	Senator.
8	38 08 19.36	76 03 50.91	S 45 02 W	N 45 01 E	3,143	Holland Island Church Spire.
			S 19 50 W	N 19 48 E	9,035	Holland Island Bar Light.
			S 84 05 E	N 84 03 W	5,014	Senator.

SPRING ISLAND (DORCHESTER COUNTY).

(*Holland Straits—Chart No. 42.*)

1	38 06 39.86	76 03 17.80	S 37 30 W	N 37 28 E	6,484	Holland Island Bar Light.
			S 68 15 E	N 68 13 W	4,926	Miles.
			N 55 19 E	S 55 20 W	4,992	Senator.
2	38 07 24.24	76 03 49.60	S 80 53 W	N 80 52 E	2,288	Holland Island Church Spire.
			S 25 01 W	N 25 00 E	7,329	Holland Island Bar Light.
			N 74 50 E	S 74 52 W	5,131	Senator.
	Thence from corner No. 2 along the mean low-water line of the shore to corner No. 3, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					

SPRING ISLAND (DORCHESTER COUNTY)—Continued.

(*Holland Straits—Chart No. 42*)—Continued.

Corner of bottom.	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
3	38 07 57.56	76 03 57.44	S 54 04 W	N 54 03 E	2,532	Holland Island Church Spire.
			S 20 25 W	N 20 24 E	8,286	Holland Island Bar Light.
			N 87 34 E	S 87 36 W	5,166	Senator.
4	38 08 19.36	76 03 50.91	S 45 02 W	N 45 01 E	3,143	Holland Island Church Spire.
			S 19 50 W	N 19 48 E	9,035	Holland Island Bar Light.
			S 84 05 E	N 84 03 W	5,014	Senator.
5	38 08 49.36	76 03 08.60	S 46 02 W	N 46 00 E	4,657	Holland Island Church Spire.
			S 23 18 W	N 23 17 E	10,395	Holland Island Bar Light.
			S 68 25 E	N 68 24 W	4,151	Senator.
	Thence from corner No. 5 along the mean low-water line of the shore to corner No. 6, excluding any creek cove, or inlet less than 100 yards in width at its mouth at low tide.					
6	38 08 50.58	76 01 53.42	S 32 59 W	N 32 56 E	11,384	Holland Island Bar Light.
			S 20 28 E	N 20 27 W	6,653	Miles.
			S 49 51 E	N 49 50 W	2,431	Senator.
	Thence along county boundary as delineated on Chart No. 42 to corner No. 1.					

HOLLAND ISLAND.

(*Holland Straits—Chart No. 42*)

1	38 06 20.12	76 04 58.40	N 62 42 E	S 62 44 W	7,636	Senator.
			N 13 19 W	S 13 19 E	1,849	Holland Island Church Spire.
			S 15 47 W	N 15 46 E	4,654	Holland Island Bar Light.
2	38 06 36.42	76 05 31.58	S 4 20 W	N 4 20 E	5,044	Holland Island Bar Light.
			N 68 56 E	S 68 59 W	8,217	Senator.
			N 20 07 E	S 20 06 W	1,332	Holland Island Church Spire.
	Thence from corner No. 2 along the mean low-water line of the shore to corner No. 3, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
3	38 08 06.56	76 05 27.80	S 3 25 W	N 3 25 E	8,083	Holland Island Bar Light.
			S 11 17 E	N 11 17 W	1,824	Holland Island Church
			S 89 21 E	N 89 18 W	7,568	Senator. [Spire.
4	38 08 16.36	76 05 08.96	S 6 41 W	N 6 41 E	8,457	Holland Island Bar Light.
			S 3 54 W	N 3 54 E	2,125	Holland Island Church
			S 86 38 E	N 86 35 W	7,078	Senator. [Spire.
5	38 08 09.80	76 04 39.00	S 26 25 W	N 26 24 E	2,119	Holland Island Church Spire.
			S 12 18 W	N 12 17 E	8,370	Holland Island Bar Light.
			S 88 13 E	N 88 12 W	6,271	Senator.
6	38 07 50.85	76 04 48.22	S 28 55 W	N 28 54 E	1,441	Holland Island Church Spire.
			S 11 31 W	N 11 31 E	7,695	Holland Island Bar Light.
			N 86 06 E	S 86 08 W	6,529	Senator.
7	38 06 57.60	76 04 39.70	N 70 23 E	S 70 25 W	6,674	Senator.
			N 59 53 W	S 59 53 E	1,068	Holland Island Church Spire.
			S 17 04 W	N 17 04 E	6,007	Holland Island Bar Light.

PRY ISLAND.

(*Holland Straits—Chart No. 42.*)

Corner of bottom.	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 05 44.11	76 03 44.60	S 44 43 W	N 44 42 E	4,594	Holland Island Bar Light.
			S 15 12 E	N 15 11 W	7,546	Fog 2.
			S 38 05 E	N 38 03 W	7,318	Solomons Lump Light.
2	38 06 13.50	76 04 44.66	N 59 52 E	S 59 54 W	7,422	Senator. [Spire.
			N 21 23 W	S 21 23 E	2,173	Holland Island Church
			S 20 59 W	N 20 58 E	4,558	Holland Island Bar Light.
3	38 06 44.38	76 04 31.24	N 66 06 E	S 66 08 W	6,630	Senator. [Spire.
			N 49 30 W	S 49 32 E	1,511	Holland Island Church
			S 20 35 W	N 20 34 E	5,659	Holland Island Bar Light.
4	38 07 53.56	76 04 28.45	S 42 11 W	N 42 10 E	1,823	Holland Island Church Spire.
			S 15 08 W	N 15 07 E	7,905	Holland Island Bar Light.
			N 86 38 E	S 86 39 W	5,997	Senator.
5	38 08 19.36	76 03 50.91	S 45 02 W	N 45 01 E	3,143	Holland Island Church Spire.
			S 19 50 W	N 19 48 E	9,035	Holland Island Bar Light.
			S 84 05 E	N 84 03 W	5,014	Senator.
6	38 07 57.56	76 03 57.44	S 54 04 W	N 54 03 E	2,532	Holland Island Church Spire.
			S 20 25 W	N 20 24 E	8,286	Holland Island Bar Light.
			N 87 34 E	S 87 36 W	5,166	Senator.
	Thence from corner No. 6 along the mean low water line of the shore to corner No. 7, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
7	38 07 24.24	76 03 49.60	S 80 53 W	N 80 52 E	2,288	Holland Island Church Spire.
			S 25 01 W	N 25 00 E	7,329	Holland Island Bar Light.
			N 74 50 E	S 74 52 W	5,131	Senator.
8	38 06 39.86	76 03 17.80	S 37 30 W	N 37 28 E	6,484	Holland Island Bar Light.
			S 68 15 E	N 68 13 W	4,926	Miles.
			N 55 19 E	S 55 20 W	4,992	Senator.
	Thence along county boundary as delineated on Chart No. 42 to corner No. 1.					

APPENDIXES.

APPENDIX A.—LAWS RELATING TO THE COOPERATION OF THE COAST AND GEODETIC SURVEY AND BUREAU OF FISHERIES WITH THE MARYLAND SHELL FISH COMMISSION.

The work of the Coast and Geodetic Survey and of the Bureau of Fisheries, in cooperation with the Maryland Shell Fish Commission, in surveying the oyster bars, establishing permanent landmarks at triangulation stations, and preparing for publication the necessary charts and technical and legal descriptions of boundaries and landmarks shown on these charts, has been executed in compliance with a request from the governor of the State of Maryland to the Secretary of Commerce and Labor, and by the authority of the following laws of the United States and Maryland:

[Act of Congress approved May 26, 1906.]

AN ACT To authorize the Secretary of Commerce and Labor to cooperate, through the Bureau of the Coast and Geodetic Survey, and the Bureau of Fisheries, with the shellfish commissioners of the State of Maryland in making surveys of the natural oyster beds, bars, and rocks in the waters within the State of Maryland.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of Commerce and Labor be, and he is hereby, authorized and directed, upon the request of the governor of the State of Maryland, to designate such officers, experts, and employees of the Bureau of the Coast and Geodetic Survey and of the Bureau of Fisheries as may be necessary to cooperate with the Maryland State board of shellfish commissioners in making a survey of and locating the natural oyster beds, bars, and rocks in the waters within the State of Maryland; and the Secretary of Commerce and Labor is hereby authorized and directed to furnish to the officers, experts, and employees of said bureaus so detailed as aforesaid such instruments, appliances, and steam launches as may be necessary to make the survey aforesaid; and the Secretary of Commerce and Labor is hereby authorized to have made in the Bureau of the Coast and Geodetic Survey all the plats necessary to show the results of the aforesaid survey and the locations of the said natural oyster beds, bars, and rocks in the waters within the State of Maryland, and to furnish to the board of shellfish commissioners of the State of Maryland such copies as may be necessary, and for this purpose to employ, in the District of Columbia and elsewhere, such technically qualified persons as may be necessary to carry out the purpose of this act.

SEC. 2. That the Secretary of Commerce and Labor is hereby further authorized to have erected or constructed by the officers so detailed as aforesaid, while making such survey, such structures as may be necessary to mark the points of triangulation, so that the same may be used for such future work of the Coast and Geodetic Survey as the said bureau may be hereafter required to perform in prosecuting the Government coast survey of the navigable waters of the United States located within the State of Maryland.

* * * * * * *

SEC. 4. That this act shall take effect from the date of its passage.

[Act of Congress approved June 30, 1906.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and seven, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and seven, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including the expenditures authorized under Public Act Numbered One hundred and eighty-one, approved May twenty-sixth, nineteen hundred and six, and contingent expenses incident thereto, five thousand dollars, together with the unexpended balance under this appropriation for nineteen hundred and six and prior years which is hereby reappropriated and made available on this account for the fiscal year nineteen hundred and seven. * * *

[Act of Congress approved March 4, 1907.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and eight, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and eight, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, to be immediately available and to continue available until expended, twenty-five thousand dollars. * * *

[Act of Congress approved May 27, 1908.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and nine, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and nine, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, which expenses, including cost of plats and charts, shall not exceed fifteen thousand dollars in any one year, to be immediately available, twenty thousand dollars.

[Act of Congress approved March 4, 1909.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and ten, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and ten, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, which expenses, including cost of plats and charts, shall not exceed fifteen thousand dollars in any one year, to be immediately available, twenty thousand dollars

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[Act of Congress approved June 25, 1910.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and eleven, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and eleven, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, to be immediately available, fifteen thousand dollars.

[Act of Congress approved March 4, 1911.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and twelve, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and twelve, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, to be immediately available, thirteen thousand dollars * * *

[Act of the Legislature of Maryland approved April 2, 1906.]

AN ACT To establish and promote the industry of oyster culture in Maryland, to define and mark natural oyster beds, bars and rocks lying under the waters of this State, to prescribe penalties for the infringement of the provisions of this Act, and * * *.

SECTION 1. *Be it enacted by the General Assembly of Maryland*, That the following sections be, and they are hereby, added to article 72 of the Code of Public General Laws, title "Oysters." * * *

SEC. 86. The Board of Shell Fish Commissioners shall, as soon as practicable after the passage of this act, cause to be made a true and accurate survey of the natural oyster beds, bars and rocks of this State, said survey to be made with reference to fixed and permanent objects on the shore, giving courses and distances, to be fully described and set out in a written report of said survey, as hereinafter required. A true and accurate delineation of the same shall be made on copies of published maps and charts of the United States coast and geodetic survey, which said copies shall be filed in the office of the said commissioners in the city of Annapolis, and the said commissioners shall further cause to be delineated upon copies of the published maps and charts of the United States coast and geodetic survey, of the largest scale, one copy for each of the counties of this State in the waters of which there are natural oyster beds, bars and rocks, all natural beds, bars and rocks lying within the waters of such county, which maps shall be filed in the offices of the clerks of the Circuit Court for the respective counties wherein the grounds so designated may lie * * *.

SEC. 87. The governor of this State is hereby requested to ask the assistance of the United States Coast and Geodetic Survey, and of the United States Fish Commissioner, to aid in the carrying out of the provisions of the preceding section.

* * * * * * *

SEC. 89. As soon as practicable after the first day of April, 1906, the said commissioners shall organize, and shall at once proceed, with the assistance of such person or persons as may be detailed by the United States Coast and Geodetic Survey and the United States Fish Commissioner, to aid them in their work, and of such persons as may be appointed under the preceding section, to have laid out, surveyed and designated on the said charts, the natural beds and bars, and shall cause to be marked and defined as accurately as practicable the limits and boundaries of the natural beds, bars, and rocks as established by said survey, and they shall take true and accurate notes of said survey in writing, and make an accurate report of said survey, setting forth such a description of landmarks as may be necessary to enable the said board, or their successors, to find and ascertain the boundary lines of the said natural oyster beds, bars, and rocks, as shown by a delineation on the maps and charts provided in this act; said report shall be completed and filed in the office of the board in the city of Annapolis within ninety days after the completion of the survey of any county. Said commissioners shall cause the same to be published in pamphlet form, and transmit copies of the same to the clerks of the circuit court for the respective counties, where the charts have been filed or directed to be filed as hereinafter provided; the said report to be filed by the clerks of the several counties in a book kept for that purpose. And the said survey and report, when filed, subject to the right of appeal hereafter provided for in this act, shall be taken in all of the courts of this State as conclusive evidence of the boundaries and limits of all natural oyster beds, bars, and rocks, lying within the waters of the county wherein such survey and report are filed, and shall be construed to mean in all of the said courts that there are no natural oyster beds, bars, or rocks lying within the waters of the counties wherein such report and survey are filed other than those embraced in the survey authorized by this act, and that all areas of the Chesapeake Bay and its tributaries within the State of Maryland, not shown in the survey to be natural

oyster beds, bars, or rocks shall be construed in all the courts of the State to be barren bottoms and open for disposal by the State for the purpose of private planting or propagation of oysters thereon under the provisions of this act; provided, that the said survey and report shall not be construed as to affect in any manner the holdings by citizens of this State in any lot which may have been appropriated or taken up under the laws of this State prior to the approval of this act.

The law of the State of Maryland, passed March 9, 1842, authorizing officers of the United States Coast and Geodetic Survey to enter upon the lands within the State limits for the purposes of the survey, is as follows:

AN ACT Concerning the Survey of the Coast of Maryland.

SECTION 1. *Be it enacted by the General Assembly of Maryland*, That it shall and may be lawful for any person or persons employed under and by virtue of an act of the Congress of the United States, * * * at any time hereafter to enter upon lands within this State for the purpose of exploring, surveying, triangulating, or leveling, or doing any other matter or thing which may be necessary to effect the objects of said act, and to erect any works, stations, buildings, or appendages requisite for that purpose, doing no unnecessary injury to private or other property.

SEC. 2.[1] *And be it enacted*, That in case the person or persons employed under the act of Congress aforesaid, can not agree with the owners or possessors of the land so entered upon and used as to the amount of damage done thereto by reason of the removal of fences, cutting of trees or injury to the crop or crops growing on the same, it shall and may be lawful for the said parties or either of them to apply to the chief justice for the time being or one of the associate judges of the judicial district in which such land may be situated, who shall thereupon appoint three disinterested and judicious freeholders, residents of the same judicial district, to proceed with as much dispatch as possible to the examination of the matter in question, and the faithful assessment of the damages sustained by the owners or possessors aforesaid, and the said freeholders or a majority of them, having first taken and subscribed an oath or affirmation before the chief or associate justice aforesaid or other person duly authorized to administer the same, that they will well and truly examine and assess as aforesaid, and having given five days' notice to both parties of the time of their meeting, shall proceed to the spot, and then and there upon their own view and if required, upon the evidence of witnesses (to be by them sworn or affirmed and examined), shall assess the said damages, and shall afterward make report thereof and of their proceedings in writing under their hands and seals and file the same within five days thereafter in the office of the clerk of the county in which the land aforesaid is situated, subject to an appeal by either party to the county court of the said county within ten days after filing as aforesaid, and the said report so made as aforesaid if no appeal as aforesaid be taken, shall be held to be final and conclusive as between the said parties, and the amount so assessed and reported shall be paid to the said owners or possessors of the land so damaged within twenty days after the filing of said report, and the said chief or associate justice as aforesaid, shall have authority to tax and allow upon the filing of said report, such costs, fees, and expenses to the said freeholders for the performance of their duty as he shall think equitable and just, which allowance shall be paid by the person or persons employed under the act of Congress aforesaid, within the time last above limited, but if an appeal as aforesaid be taken, the case shall be set down for hearing at the first term of county court aforesaid, ensuing upon and after appeal, and it shall be lawful for either party immediately after the entry of such appeal, to take out summons for such witnesses as may be necessary to be examined upon the hearing aforesaid, and the said court shall have power in its discretion to award costs against which ever the final judgment shall be entered, and such appeal at the option of either party may and shall be heard before and the damage assessed by a jury of twelve men to be taken from the regular panel and elected as in other cases.

SEC. 3. *And be it enacted*, That if any person or persons shall wilfully injure or deface or remove any signal, monument, or building or any appendage thereto, erected, used, or constructed under and by virtue of the act of Congress aforesaid, such person or persons so offending shall severally forfeit and pay the sum of fifty dollars with costs of suit to be sued for and recovered by any person who shall first

[1] Under the rulings of the Comptroller of the Treasury no damages can be collected except through the United States Court of Claims unless an agreement has been made in advance.

prosecute the same before any justice of the peace of the county where the person so offending may reside, and shall also be liable to pay the amount of damages thereby sustained, to be recovered with costs of suit in an action on the case, in the name and for the use of the United States of America, in any court of competent jurisdiction.

Appendix B.—THE HAMAN OYSTER CULTURE LAW.

[Extract from Second Report of Shell Fish Commission.]

OBJECT.

"The legislature in placing chapter 711 of the acts of 1906, better known as the Haman Oyster Culture Law, upon the statute books of Maryland, had a twofold object in view.

1. To *encourage* an industry in oyster culture upon the *barren bottoms* beneath the tidewaters of the State.

2. To *prevent* the leasing of *natural oyster bars* for the purpose of oyster culture."

SURVEY.

"To make the leasing of barren bottoms possible and the leasing of natural bars impossible, provision was made for a survey of the natural bars for the purpose of accurately locating and marking the same. It was definitely provided that no barren bottoms should be leased in any part of the State until the natural bars of that region had been surveyed, charted, and marked with buoys."

Definition of a Natural Oyster Bar.

NATURAL BAR NOT DEFINED.

"The Shell Fish Commission is instructed by section 90 of the Haman Oyster Culture Law to exercise its judgment liberally in favor of the natural bars when surveying, charting and buoying them, but other than this the Commission is uninstructed in this important matter. The responsibility of defining a natural bar is placed upon the Commission."

DIVERSITY OF OPINION.

"No definition of a natural oyster bar could be formulated by any man or body of men which would meet with the approval of all parties concerned. Oystermen, as a rule, hold that all bottoms where oysters grow or have grown naturally even though now practically barren of oysters should be considered natural bars. Other citizens of the State who are not directly interested in the oyster business, but interested in the oyster industry from the standpoint of revenue, hold, as a rule, that no bottoms should be excluded from leasing for oyster culture which, by methods known to oyster culturists, may be made to yield a greater number of oysters than they now produce."

"It should be evident to every one that neither of these definitions could be adopted by the Commission as a working basis for determining which of the grounds surveyed are natural oyster bars."

THE GOLDSBOROUGH DEFINITION.

The definition of a natural oyster bar which very nearly approaches a reasonable and satisfactory compromise between the views of the subject held by *oystermen* on one hand and by *oyster culturists* on the other is that contained in an opinion rendered by Judge Charles F. Goldsborough in the circuit court for Dorchester County in the July term, 1881, in the case of William T. Windsor and George R. Todd *v.* Job T. Moore.

This definition has been adopted by the Shell Fish Commission as the basis for the determination of the status of the various oyster bottoms surveyed, and is as follows:

What then is a natural bar or bed of oysters? It would be a palpable absurdity for the State to attempt to promote the propagation and growth of oysters and to encourage its citizens, by a grant of land, to engage in their culture, if the lands authorized to be taken up were only those upon which

oysters do not and can not be made to grow. That there may be lands covered by water in the State where no oysters can be found, but where, if planted, they could be cultivated successfully, may be possible, but, if so, I imagine that their extent must be too limited for them to be of much practical, general advantage for the purposes of such a law as the one under discussion; but there are thousands of acres of hard and shifting sands where oysters not only are not found, but where it would be folly to plant them, and these latter it can not be supposed that the State intended to offer to give away, for the simple reason that the State could not help knowing that nobody would have them.

Upon the other hand there are large and numerous tracts where oysters of natural growth may be found in moderate numbers, but not in quantities sufficient to make it profitable to catch them, and yet where oysters may be successfully planted and propagated. In my opinion these can not be called natural bars or beds of oysters, within the meaning of the act of assembly, and it is just such lands as these that the State meant to allow to be taken up under the provisions of the above-mentioned section of the act.

But there is still another class of lands where oysters grow naturally and in large quantities and to which the public are now and have been for many years in the habit of resorting with a view to earning a livelihood by catching this natural growth, and here, I think, is the true test of the whole question. Land can not be said to be a natural oyster bar or bed merely because oysters are scattered here and there upon it, and because if planted they will readily live and thrive there; but whenever the natural growth is so thick and abundant that the public resort to it for a livelihood, it is a natural oyster bar or bed and comes within the above-quoted restriction in the law, and can not be located or appropriated by any individual.

APPLICATION OF DEFINITION.

Before this definition may be of use in determining, accurately and scientifically, the status of an oyster ground, its central idea, "livelihood," must be expanded into accurately determinable factors, and these factors must be combined into a practical scheme of investigating the condition of the ground under consideration.

Stated briefly, a *livelihood* is represented by a *sum of money* obtained from the sale, at a fixed *price*, of a certain *quantity of oysters* gathered in a given *time* from an allotted *area* of ground.

Knowing the value of each of these factors it becomes possible to calculate the number of oysters an oyster ground must produce per square yard in order that oystermen may secure a livelihood by working upon it.

NOTE.—The factors into which the commission resolved the livelihood problem, the value assigned to each factor, and the scheme devised for practical use in examining and applying the definition to oyster bottoms are given in outline in their second report under the heading of the preceding extract, and in detail in their first report on pages 32 to 69.

APPENDIX C.—SUMMARY OF THE PARTICULAR SURVEYING OPERATIONS WHICH CONSTITUTE AN "OYSTER SURVEY" AS NOW BEING CARRIED ON IN MARYLAND.

Explanation.—A brief account of the particular surveying operations which constitute an "oyster survey" as now being carried on in Maryland will assist in the interpretation of records contained in the technical part of this report, and will be of interest to many who may not understand the necessity for the great amount of work being done or its complicated character.

To those familiar with methods used in surveying and charting the characteristic features of large bodies of water there is an evident necessity for the various operations performed, especially when it is known that the boundaries of the public oyster bars and of the private lots leased for purposes of oyster culture must be surveyed and charted with the greatest practical accuracy. To others it will be sufficient to state that the actual experience gained from oyster surveys in other States has proven that in order to avoid endless dissatisfaction and litigation it is necessary to accurately locate and permanently establish oyster boundaries as is now being done in Maryland.

Triangulation survey.—Such refinement of survey work as that demanded by the conditions of an oyster survey when carried on at considerable distances offshore can only be obtained by the use of a system of triangulation as a framework or foundation. Therefore, a triangulation survey including the permanent marking of the positions of landmarks with monuments and a record of the descriptions of their locations for future recovery is a necessary operation of a complete oyster survey.

Topographic survey.—The technical records which establish the relation between the offshore oyster boundaries and triangulation landmarks are sufficient for the requirements of engineers in making

resurveys, but do not supply the needs of others who are interested in the same boundaries by reason of their occupation as oystermen concerned as to the public oyster bars, or oyster culturists concerned as to the leasable bottoms. For these it is necessary to have the charts of the survey show the relation of the shore line and other topographic features to the boundaries of the public oyster bars and private oyster farms. Therefore, a topographic survey is a necessary operation of a complete oyster survey.

Hydrographic survey.—In the settlement of the important question of what is, or what is not, a natural oyster bar, and in the consideration of bottoms to be selected for purposes of oyster culture, information as to the depth of water and the character of the bottom is required. Therefore, a hydrographic survey is a necessary operation of a complete oyster survey.

Necessary foundation for an oyster survey.—Consequently, the necessary components of a satisfactory foundation for a complete oyster survey are the three classes of survey operations technically named triangulation, topography, and hydrography, or, stated in another way, the foundation of a practical oyster survey includes the surveying operations usually followed by the Coast and Geodetic Survey leading up to the preparation and publication of nautical charts.

Special surveys and investigations pertaining to oysters.—Having obtained this cartographic survey for a foundation, partly by new work and partly from records of previous work of the Government, the combined operations[1] making up an "oyster survey" are completed by superimposing on this foundation special surveys and investigations pertaining particularly to oysters or other shell fish.

The special surveys pertaining to oysters furnish information as to the location and outline of oyster-shell bottoms, and are carried on by the sounding boat party in addition to the usual hydrographic work.[2] This operation consists of the observation and record of the character of vibration of a wire and chain apparatus which is dragged over the bottom, the vibrations or lack of vibrations indicating the presence and quantity of shells or absence of shells.

The special oyster investigations[3] consist of the actual determination of the kind and quantity of oysters on the bottom, and such economic and biological studies of the supply of oyster food, density of water, character of the bottom, and other important matters as affects the growth of oysters. In this work the oyster investigation stations are located and buoyed by the hydrographic party while engaged in the survey of the oyster-shell limits. They are selected with the view of obtaining characteristic data which can be used for the interpretation of the recorded vibrations of the chain apparatus at all other points covered by the survey.

Preparation of results.—The actual surveying operations and oyster investigations having been completed for any one county, there still remains technical work of nearly equal magnitude to that described.[4] This work consists of the preparation of charts and technical descriptions of boundaries and landmarks for publication by the Government, the preparation of that part of the annual report of the commission covering the special oyster surveys and investigations, the making of the leasing charts and finished projections, and finally the filing of the oyster charts and records with the courts and the commission, thus opening a county for oyster culture.

Summary.—From the foregoing account it can be seen that a complete oyster survey properly conducted so as to answer all practical requirements of the present and permanency of results for the future is a very complicated affair, involving many lines of surveying and other scientific work, and requiring the professional services of experts in the various operations of cartographic surveying and shell-fish investigations.

[1] See Appendix D of this publication for "Statistics of results of combined operations of the Government and State."

[2] See pp. 104 to 123 of First Annual Report of Maryland Shell Fish Commission.

[3] See pp. 30 to 67 and 129 to 199 of First Annual Report of Maryland Shell Fish Commission.

[4] No mention is made here of the large amount of administrative work of the commission, which is greatly complicated and increased by the effect of the oyster-survey operations on many thousands of people whose interests are more or less involved; or of the large amount of survey work involved in the survey and record of the boundaries of oyster lots leased from the State by private individuals for the purposes of oyster culture.

APPENDIX D.—STATISTICS OF RESULTS OF THE COMBINED OYSTER SURVEY OPERATIONS OF THE GOVERNMENT AND STATE [1]

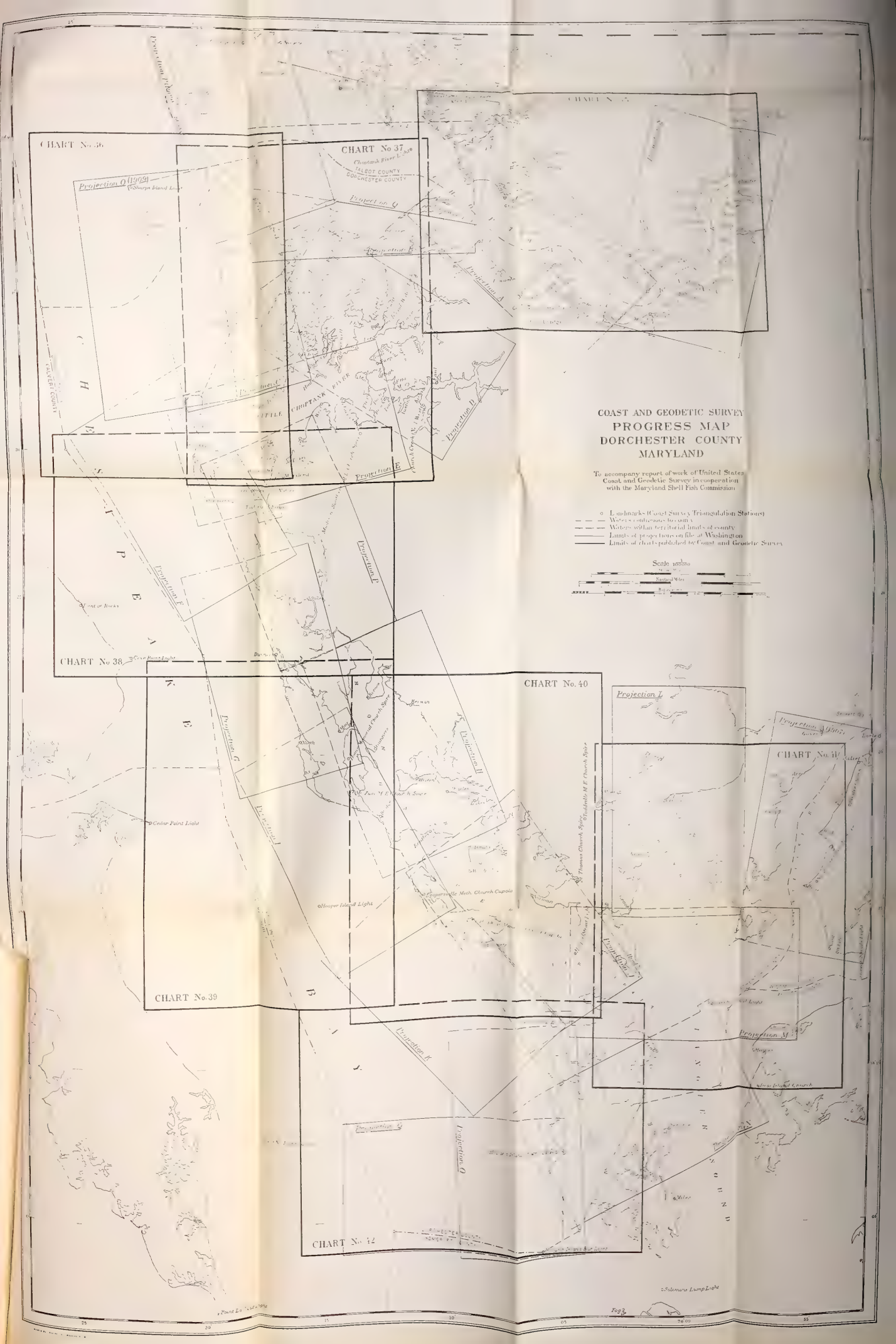
Operations.	Anne Arundel County.	Somerset County.	Wicomico County.	Worcester County.	Calvert County.	Charles County.	St. Marys County.
Beginning of field work	June 29, 1906	May 2, 1907	Aug. 27, 1907	Nov. 8, 1907	May 2, 1908	Aug. 18, 1908	May 2, 1908
Filing of certified charts and reports	June 20, 1907	July 1, 1908	Dec. 1, 1908	Apr. 12, 1909	Dec. 14, 1909	Jan. 27, 1911	July 6, 1911
Natural oyster bars surveyed and delineated	91	37	15	28	41	15	124
Acres of natural oyster bars [2]	33,577	27,566	2,038	1,655	12,303	2,285	25,755
Crab bottoms surveyed and delineated		54					
Acres of crab bottoms		12,108					
Clam beds surveyed and delineated		3					
Acres of clam beds		506					
Boundary buoys located and planted	162	154	53	104	149	51	375
Triangulation landmarks established	123	86	30	48	78	42	238
Miles of shore line covered by triangulation	110	125	46	95	95	32	160
Square miles of water covered by triangulation	220	375	44	110	157	20	180
Miles of examination of shell bottom with chain apparatus	425	340	59	63	250	38	400
Oyster investigation stations occupied	440	679	162	147	667	113	1,472
Tide stations established	4	3	1	1	2	1	7
Number of soundings over shell bottoms	37,049	17,904	3,387	3,649	11,292	1,631	19,344
Square miles covered by soundings and chain apparatus	50	55	3	3	30	4	57
Projections prepared and plotted	9	13	2	5	8	3	15
Leasing charts prepared	13	12	2	3	5	2	10
Oyster charts published	4	6	2	3	5	1	8
Reports published	2	2	2	2	2	2	2
Progress maps published	2	2	2	2	2	2	2

Operations.	Baltimore County.	Kent County.	Queen Annes County.	Talbot County.	Dorchester County.	Total. [3]
Beginning of field work	Apr. 14, 1909	Apr. 14, 1909	Apr. 14, 1909	July 6, 1909	Mar. 14, 1910	
Filing of certified charts and reports	Aug. 10, 1911	Oct. 5, 1911	Nov. 29, 1911	July 20, 1912	Aug. 17, 1912	
Natural oyster bars surveyed and delineated	3	64	98	132	121	769
Acres of natural oyster bars [2]	3,010	12,809	24,721	36,564	33,562	215,845
Crab bottoms surveyed and delineated					14	68
Acres of crab bottoms					11,883	43,991
Clam beds surveyed and delineated						3
Acres of clam beds						506
Boundary buoys located and planted	12	211	342	529	624	2,964
Triangulation landmarks established	15	147	199	336	190	1,112
Miles of shore line covered by triangulation	12	110	240	230	270	1,340
Square miles of water covered by triangulation	20	130	500	240	330	2,042
Miles of examination of shell bottom with chain apparatus	13	164	288	511	491	3,061
Oyster investigation stations occupied	64	1,151	1,949	1,975	2,187	11,006
Tide stations established	1	3	3	5	5	30
Number of soundings over shell bottoms	1,080	8,123	13,886	20,213	21,979	159,531
Square miles covered by soundings and chain apparatus	6	21	47	77	118	479
Projections prepared and plotted	4	10	12	14	21	87
Leasing charts prepared	1	4	11	12	14	63
Oyster charts published	1	3	4	7	8	42
Reports published	2	2	2	2	2	16
Progress maps published	1	1	1	1	1	14

[1] These statistics do not include the large amount of triangulation, topography, and hydrography resulting from previous work of the Coast and Geodetic Survey, which was utilized in the preparation of the published oyster charts and records.

[2] Total area of natural oyster bars of Connecticut, 5,770 acres.

[3] Less quantities covered by statistics of more than one county.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Projection L
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DORCHESTER COUNTY
CALVERT COUNTY
CHOPTANK RIVER
Cedar Point Light
Hooper Island Light
Point Lookout Light
Solomons Lump Light
Fog Sig.
COAST AND GEODETIC SURVEY
PROGRESS MAP
DORCHESTER COUNTY
MARYLAND
To accompany report of work of United States Coast and Geodetic Survey in cooperation with the Maryland Shell Fish Commission
Landmarks (Coast Survey Triangulation Stations)
Waters contiguous to county
Waters within territorial limits of county
Limits of projections on file at Washington
Limits of charts published by Coast and Geodetic Survey
Scale 1:80000
Nautical Miles
Statute Miles

DEPARTMENT OF COMMERCE AND LABOR
COAST AND GEODETIC SURVEY
O. H. TITTMANN, Superintendent

SURVEY OF OYSTER BARS

KENT COUNTY MARYLAND

DESCRIPTION OF BOUNDARIES AND LANDMARKS AND REPORT OF WORK OF UNITED STATES COAST AND GEODETIC SURVEY IN COOPERATION WITH UNITED STATES BUREAU OF FISHERIES AND MARYLAND SHELL FISH COMMISSION

By C. C. YATES
CHIEF OF COAST AND GEODETIC SURVEY PARTY
ASSISTANT, COAST AND GEODETIC SURVEY

WASHINGTON
GOVERNMENT PRINTING OFFICE
1912

LETTER OF SUBMITTAL.

DEPARTMENT OF COMMERCE AND LABOR,
COAST AND GEODETIC SURVEY,
Washington, October 5, 1911.

SIR: I have the honor to transmit herewith a report of the officer detailed from the Coast and Geodetic Survey to cooperate with the Bureau of Fisheries and the Maryland Shell Fish Commission in surveying the oyster bars of the State of Maryland, together with certain technical results which are necessary for the interpretation and use of the plats of the survey made by the Government.

This work has been done under the provisions of the act of Congress entitled "An act to authorize the Secretary of Commerce and Labor to cooperate, through the Bureau of the Coast and Geodetic Survey and the Bureau of Fisheries, with the shell fish commissioners of the State of Maryland in making surveys of the natural oyster beds, bars, and rocks in the waters within the State of Maryland," approved May 26, 1906, and of the acts of Congress making appropriations for sundry civil expenses of the Government for the fiscal years ending June 30, 1907, 1908, 1909, 1910, 1911, and 1912.

Respectfully,

O. H. TITTMANN, *Superintendent.*

To Hon. CHARLES NAGEL,
Secretary of Commerce and Labor.

CERTIFICATION.

BALTIMORE, MD., *October 4, 1911.*

The following publication is certified to contain correct technical descriptions of all boundaries and landmarks established in Kent County by the Maryland Shell Fish Commission in cooperation with the United States Coast and Geodetic Survey.

C. C. YATES,
Chief of Coast and Geodetic Survey Party,
Assistant, Coast and Geodetic Survey.

BALTIMORE, MD., *October 4, 1911.*

Examined and certified to be correct.

WALTER J. MITCHELL,
CASWELL GRAVE,
BENJAMIN K. GREEN,
Maryland Shell Fish Commission.
SWEPSON EARLE,
Hydrographic Engineer.

NOTE.—Certified copies of this publication and of the charts of the natural oyster bars of Kent County were filed in the office of the clerk of the circuit court of Kent County and in the office of the Board of Shell Fish Commissioners on October 5, 1911.

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SURVEY OF OYSTER BARS, KENT COUNTY, MD.

INTRODUCTION.

PUBLICATIONS.

The preparation of publications relating to the survey of the oyster bars of Maryland has been divided between the Government and the State in accordance with the laws [1] authorizing the work and the natural division of the surveying operations [2] of the cooperating forces.

The publications prepared and issued by the Government under the direction of the Superintendent of the Coast and Geodetic Survey consist of a series of charts and a technical report for each county surveyed.[3] The charts show all legal boundaries of oyster bars within the adopted boundaries of the waters opened up for leasing with each county, and the location of all landmarks (Coast and Geodetic Survey triangulation stations) used as a foundation for the delineation of these various boundaries. The technical report gives technical and legal descriptions of all oyster bar and other boundaries, and descriptions of all landmarks shown on the charts, and includes the report of the representative of the Coast and Geodetic Survey in charge of the work of that service in cooperation with the Bureau of Fisheries and the Maryland Shell Fish Commission. These charts and technical reports are prepared and certified for file with the courts and the Commission, as required by the laws of the State, and contain all information necessary to make a permanent record of the work of the Commission and the Government for all future requirements of the courts, or for any resurveys that may become necessary.[4]

The publications prepared and issued by the State under the direction of the Shell Fish Commission consist of annual reports [5] of all the operations of the Commission performed under the provisions of the laws of Maryland,[6] including results of biological

[1] See Appendix A for laws relating to the cooperation of the Coast and Geodetic Survey and Bureau of Fisheries with the Maryland Shell Fish Commission.

[2] See Appendix C for a summary of the particular surveying operations which constitute an "oyster survey" as now being carried on in Maryland.

[3] These charts and technical reports can be obtained by application to the Superintendent of the Coast and Geodetic Survey at Washington, D. C. The publications now ready for issue are those for Anne Arundel, Somerset, Wicomico, Worcester, Calvert, Charles, St. Marys, Baltimore, and Kent Counties.

[4] The technical records and charts for each county are published separately, on account of the requirements of the oyster-culture laws of the State and the practical considerations which make it desirable to have each county "opened up" for oyster culture as soon as practicable after the completion of its survey. For these reasons and the fact that these reports are each arranged for distribution and use in one county only without reference to other published records, much of the text of this publication is of necessity identical with similar previous publications for other counties.

[5] These reports can be obtained by application to the Shell Fish Commission, Marine Bank Building, Baltimore, Md. They are issued annually in October, and the first, second, and third reports are now available for distribution.

[6] See Appendix B for an extract from the "Second Report of the Maryland Shell Fish Commission," giving a concise summary of the "Haman Oyster Culture Law."

and economic oyster investigations, methods and results of the hydrographic survey of the boundaries of oyster bars and crab bottoms, the administrative report and financial statement of the Commission, information relating to oyster culture, methods of surveying and leasing of oyster lots, and much other important matter of legal and scientific value.

These two sets of publications are planned and arranged to supplement each other without unnecessary duplication, and when combined they form a complete report of operations, methods, and results of the work of both the Government and State.[1]

COOPERATION OF THE COAST AND GEODETIC SURVEY.

The work of the Coast and Geodetic Survey, as the name of the service indicates, includes a survey of the coasts of the United States made on a geodetic basis. This has involved the gradual construction of a great framework of interstate triangulation for use as a foundation for detail hydrographic and topographic surveys, from which there has been compiled and published a complete set of charts of the coasts of the United States, including all waters of Maryland where oysters grow. This existing triangulation, hydrography, and topography is essential as a foundation for a correct and practical survey of natural oyster bars; and it being one of the fundamental functions of the Coast and Geodetic Survey to furnish such data, the cooperation of the Coast and Geodetic Survey with the Bureau of Fisheries and the Maryland Shell Fish Commission is a practical and natural development of Government work leading to the conservation and increase of the supply of food.

COOPERATION OF THE BUREAU OF FISHERIES.

The Bureau of Fisheries has cooperated with the Coast and Geodetic Survey and the Maryland Shell Fish Commission principally as an adviser in matters relating to the biological and economic survey of oyster bars and the methods to be employed for that purpose.[2] A steam launch, rowing boat, and certain apparatus have also been furnished.

The primary function of the Bureau of Fisheries is to increase the productiveness of marine and fresh waters by such measures as may be best suited to the purpose, and the services rendered in connection with the survey of the oyster bars of Maryland are strictly in line with the fundamental law under which it acts. In certain States other than Maryland similar work has been conducted by the Bureau acting independently, the same ends being attained at greater expense to the Government.

GENERAL STATEMENT OF WORK OF COAST AND GEODETIC SURVEY.[3]

The results obtained from the work of the Coast and Geodetic Survey in cooperation with the Bureau of Fisheries and the Maryland Shell Fish Commission need very little other summary than is indicated by the published "Charts of Natural Oyster Bars" and the index of hydrographic projections and triangulation stations shown on the county progress maps attached to each report.

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[1] See Appendix D of this publication for "Statistics of results of combined operations of the Government and State."

[2] Hon. George M. Bowers, Commissioner of Fisheries, has detailed for this service Dr. H. F. Moore, Assistant, Bureau of Fisheries.

[3] For a detail statement of the very large amount of excellent oyster-survey work of the Maryland Shell Fish Commission see the "Annual Reports of the Maryland Shell Fish Commission."

The triangulation has been carried on in accordance with the standard methods of the Coast and Geodetic Survey, making this work and that of the "Descriptions of Triangulation Stations" of permanent value, not only to the State of Maryland in the survey of her oyster bars, but also to the Government for any future work it may do in the regions covered by the oyster-survey operations.

The hydrographic projections and published charts are prepared with all the accuracy permitted by their large scale, especially as to the boundaries of the various shell-fish bottoms in relation to landmarks, but this accuracy of location on the charts is further added to and permanently fixed by published technical descriptions which should minimize the probability of any future dispute as to either landmarks or boundaries.

Stated another way, and quoting from the report of the "Survey of Oyster Bars of Anne Arundel County":

> The geographic positions of the permanent landmarks and signals have been determined with the usual precision of a trigonometric survey, and their locations at all points necessary to provide ample foundation for the surveying and charting operations permitted great accuracy of definition and location for the natural oyster bar and other boundaries established. At the same time, the very important element of permanency of the positions of boundaries has been secured, as the relocation of geodetic positions can always be accomplished by a competent surveyor, even though the original landmarks and monuments have been washed away, as has been the fate of hundreds of such points established by the Coast and Geodetic Survey on the shores of the Chesapeake Bay during the last 65 years.

REPORT OF THE WORK OF THE COAST AND GEODETIC SURVEY IN KENT COUNTY.

INSTRUCTIONS.

The following letters, together with the laws[1] of the United States relating to the subject, constitute the "instructions" received by the chief of the Coast and Geodetic Survey party engaged on work in connection with the Maryland Shell Fish Commission. They are short and definite, but furnish ample authority and leeway for all legitimate development of the cooperation of the Government and the State in the survey of oyster bars. The "free hand" permitted by these orders, together with the aid and many valuable suggestions received from the officers of the survey at Washington, have proved very beneficial to the work and are greatly appreciated.

DEPARTMENT OF COMMERCE AND LABOR,
OFFICE OF THE SECRETARY,
Washington, June 2, 1906.

SIR: In reply to your letter of May 28, requesting me to designate officers of the Coast and Geodetic Survey and of the Bureau of Fisheries to cooperate with the State of Maryland in making survey of and locating the natural oyster beds, I have the honor to inform you that Mr. C. C. Yates will be designated to cooperate on the part of the Coast and Geodetic Survey as soon as Congress makes the provisions of the act effective by providing an appropriation for the purpose.

Respectfully,

LAWRENCE O. MURRAY, *Assistant Secretary.*

His Excellency Hon. EDWIN WARFIELD,
Governor of Maryland, Annapolis, Md.

DEPARTMENT OF COMMERCE AND LABOR,
COAST AND GEODETIC SURVEY,
Washington, July 3, 1906.

SIR: Upon the receipt of these instructions you will surrender the command, accounts, etc., of the steamer *Endeavor* to the Hydrographic Inspector. * * *

As soon as this transfer is completed you will enter upon the duties of Coast Survey representative on the Shell Fish Commission of Maryland.

You will consult the Commissioners, prepare a programme of work, and submit estimates in the usual form.

You are authorized to come to Washington for consultation from time to time as may be necessary.

* * * * * * *

Very respectfully,

O. H. TITTMANN, *Superintendent.*

Capt. C. C. YATES,
U. S. C. and G. S. Steamer Endeavor, Baltimore, Md.

[1] For these laws see Appendix A.

ORGANIZATION AND EQUIPMENT.

The personnel and occupation of the party of the Coast and Geodetic Survey have remained practically unchanged since the beginning of the "oyster survey." Besides the chief of party, it consists of the necessary triangulators, computers, draftsmen, and temporary employees required to carry on both the surveying operations in the field and the preparation for publication of oyster charts and technical records in the office at Washington.

The equipment for the work of the party has been ample and satisfactory. The large living and office quarters furnished the Government on the Maryland Shell Fish Commission house boat *Oyster* have been very convenient for the work, besides facilitating efficient cooperation with the surveying and oyster investigation parties of the State. In addition to the accommodations on the *Oyster*, the Coast and Geodetic Survey party has had the constant use of the large steam launch *Inspector* and several other boats furnished by its own service, and the occasional use of the Bureau of Fisheries launch *Canvasback* [1] and the steamer *Governor McLane* [2] of the State fishery force.

The greater part of the equipment of instruments for the operations of both the Government and State has been furnished by the Coast and Geodetic Survey and consists of all necessary theodolites, levels, sextants, drafting instruments, hydrometers, etc., required for all field and office work.

CHRONOLOGICAL STATEMENT OF WORK.

The field work of the Coast and Geodetic Survey in Kent County [3] dates from April 14, 1909, when the Maryland Shell Fish Commission house boat *Oyster* was moved from her winter quarters at Baltimore to an anchorage off Rock Hall Landing in Kent County. The surveying operations carried on from this harbor covered a period of about six weeks in which practically all triangulation was completed on the Chesapeake Bay shores of both Kent and Baltimore Counties as well as a considerable part of the same class of work in the mouth of Chester River in both Kent and Queen Annes counties.

On May 26, 1909, the *Oyster* was moved from Rock Hall Landing to an anchorage in the upper part of Chester River near Cliffs Landing where she remained for a little over a month.

On June 30, 1909, the house boat was moved to a temporary anchorage off Queenstown in the lower Chester River. This date marked the practical completion of the work in Chester River, the triangulation of which was especially notable for the month of June on account of there having been 92 triangulation stations established which were all marked by monuments and signals, locations described, and then occupied for theodolite observations.

On July 1, 1909, the house boat *Oyster* was towed by the State steamer *Governor McLane* to Baltimore Harbor, where the following four days, which included a Sunday and a holiday, were spent in taking on coal, water, and other supplies.

[1] By courtesy of Dr. H. F. Moore, United States Bureau of Fisheries.

[2] By courtesy of Capt. James A. Turner, commanding.

[3] The field work of Kent, Baltimore, and Queen Annes counties was so intermixed that the chronological statement of the work of one of these counties necessarily includes a considerable part of the work of the other two counties.

On July 6, 1909, the *Governor McLane* again moved the *Oyster*, this time from Baltimore to an anchorage in Queen Annes County in the Eastern Bay entrance of Kent Narrows. From this harbor as headquarters a few additional triangulation observations were made in Kent County although the greater part of work while the house boat was at this anchorage was confined to Queen Annes and Talbot counties.

On July 22, 1909, the house boat was again moved to the vicinity of Rock Hall Landing to complete certain oyster survey operations not finished when the *Oyster* was anchored there in the spring.

On August 5, 1909, the house boat was towed to Worton Creek which is located at the extreme northern limit of oyster growth in Chesapeake Bay. From this harbor all the remaining oyster survey work of the Coast and Geodetic Survey in both Kent and Baltimore counties was completed, although some weeks later a Maryland Shell Fish Commission party returned to these counties to finish certain oyster investigations and hydrographic observations.

The office work connected with the "oyster survey" of Kent County, including compilations of geographic information and drafting necessary for the preparation for publication of the oyster charts and the technical records, was continued intermittingly with the office work of other counties from the beginning of the field work in Kent County to the time of filing of the certified oyster charts and technical reports in the archives of the Shell Fish Commission and with the clerk of the circuit court of Kent County on October 5, 1911.

STATISTICS.[1]

Landmarks and triangulation signals erected	135
Monuments planted to mark triangulation stations	133
Triangulation stations occupied for observations of horizontal angles	133
Old triangulation stations recovered	20
New triangulation stations established	127
Total old and new triangulation stations marked and described	147
Linear miles of shore line covered by triangulation (approximate)	110
Square miles covered by triangulation (approximate)	130
Hydrographic projections prepared and completed as records of oyster boundaries	10
Triangles computed	270
Geographic positions computed	132
Corners of oyster boundaries established by computation	271
Back azimuths and distances computed from corners of boundaries to triangulation stations	813
Descriptions of triangulation stations prepared for publication	147
Descriptions of oyster boundaries prepared for publication	64
"Charts of Natural Oyster Bars" prepared for publication	3
Progress map prepared for publication	1

[1] These statistics only include field and office work directly performed by the party of the Coast and Geodetic Survey in connection with the oyster survey of Kent County, and do not include the many thousands of soundings and examinations of the character of the bottom made by the engineers of the Commission, which are of considerable value to the Coast and Geodetic Survey as hydrographic records for future use in connection with the preparation of new editions of charts of the waters of Maryland. See Appendix D of this publication for "Statistics of results of combined operations of the Government and the State."

GENERAL REMARKS.

Before ending this report the representative of the Coast and Geodetic Survey wishes to renew his statement of appreciation of the courteous assistance received from various Government and State officials and others interested in the oyster industry of Maryland, especially to the following:

To his colleague from the Department of Commerce and Labor, Dr. H. F. Moore, of the Bureau of Fisheries, whose well-known scientific knowledge of all matters relating to oysters has been of great value to the work.

To Mr. Walter J. Mitchell, chairman of the Maryland Shell Fish Commission, who, by his administrative ability in carrying out the complicated requirements of the oyster laws and by his unfailing tact, has made the cooperation of the various services engaged on the work both agreeable and effective.

To Dr. Caswell Grave, secretary of the Commission, who, as editor of the Commission's annual report and Commissioner in charge of the biological and economic oyster investigations, has been brought into constant contact with the Government work and aided its operations in every way.

To Mr. Benjamin K. Green, treasurer of the Commission, who has looked after the equipment and commissary of the house boat in such a way as to add greatly to the comfort and convenience of the party of the Coast and Geodetic Survey.

To Mr. Swepson Earle, hydrographic engineer to the Commission, whose knowledge of the work from former service in the Coast and Geodetic Survey has greatly facilitated his practical use of the technical data furnished by the Government.

And to the many others connected with the Commission or who as residents in the locality where the work was being carried on have greatly assisted by furnishing important information or willing services.

CHARTS AND MAPS.

CHARTS OF NATURAL OYSTER BARS.

The charts [1] of the natural oyster bars of Kent County, published by the Coast and Geodetic Survey from results of surveys of the Government in cooperation with the Maryland Shell Fish Commission, consist of three sheets covering a portion of the waters of Chesapeake Bay and all of Chester River, including all oyster-producing bottoms of Kent County. They are published on a scale of 1 part in 20,000 (approximately $3\frac{1}{6}$ inch to a statute mile) and are constructed on polyconic projections and based on the United States standard datum of the Coast and Geodetic Survey.

These charts show all oyster bars and other boundaries established by the Commission, and are certified for the purpose of filing in the office of the clerk of the Circuit Court of Kent County and in the office of the Commission, as required by the oyster laws of Maryland.

In addition to the oyster bar and other boundaries, the charts show the location and name of all landmarks (U. S. Coast and Geodetic Survey triangulation stations) used in making the survey, together with the hydrography and topography [2] necessary to make the technical definitions and delineations of boundaries readily understandable both by the people engaged in the oyster industry and the general public who may become interested through leasing of barren bottoms for oyster culture.

The names of the oyster bars are those used locally, as nearly as could be ascertained by the hydrographic engineer of the Commission. When there was no local name in common use, a name was selected from one of the prominent features of the vicinity. By the use of recognized names or those that would naturally suggest certain sections of water, it is believed that much confusion will be avoided in the location on the charts of the oyster bars, especially by those not familiar with the use of maps.

The corners of the oyster bars are numbered from 1 to the total number of corners in each area under consideration. Where boundaries adjoin, making one point a corner of two or more oyster bars, these points have two or more numbers, each number corresponding to the bar in which the figure is located. The numbers of the corners correspond with the technical and legal descriptions of this publication under the heading "Boundaries of natural oyster bars."

The landmarks and oyster bars have been grouped in the "Contents" of this publication in accordance with the charts upon which they are shown. To find a particular oyster bar or landmark which is only known by name, consult the "Contents" and the desired chart and general location will be indicated. To find the name of a bar or landmark which is only known by location, consult the progress map at the end of this publication for the number of the chart on which it is to be found, and then examine the known locality on the chart for the name of the bar or landmark in question.

[1] These charts can be obtained by application to the Superintendent of the Coast and Geodetic Survey, at Washington, D. C.

[2] Much of the detail of the inshore topography was obtained from the excellent map of Kent County, prepared and published by the Maryland Geological Survey under the direction of Dr. William Bullock Clark from surveys of the Maryland Geological Survey in cooperation with the U. S. Geological Survey.

The contours on the charts showing the depth of water at mean low tide have been taken from the hydrographic sheets of former work of the Coast and Geodetic Survey. Four curves were selected as being the most convenient for taking off from the original hydrographic sheets and the ones of greatest value to those interested in shell fish industries. The 1-fathom contour (6 feet) and the 5-fathom curve (30 feet) correspond in a general way to the inner and outer limits of all the oyster bars surveyed. The 3-fathom contour (18 feet) furnishes the curve of about the average depth of water on the oyster bars and the 10-fathom contour (60 feet) serves in a general way to indicate the outer limits of probable oyster culture.

The boundaries of the waters within the "territorial limits of the county" and the boundaries of the "waters contiguous to the county" opened up for the leasing with Kent County are plainly indicated on the charts. A full technical description of these boundaries is given in this publication under the heading "Boundaries of county waters."

The areas in acres of the oyster bars were determined under the direction of the hydrographic engineer of the Commission by two independent planimeter measurements of the areas as delineated on the smooth projections of the Coast and Geodetic Survey. These areas are given in small figures in parentheses on the face of the chart within the boundaries of the different shell fish bottoms.

The symbols used on the charts for the different kinds of boundaries, triangulation stations, contours of depth of water, etc., require no other explanation than that given in the legend and other notes on the face of the charts.

LEASING CHARTS.

The leasing charts of Kent County, like those for Anne Arundel, Somerset, Wicomico, Worcester, Calvert, Charles, St. Marys, and Baltimore counties, have been prepared under the direction of the hydrographic engineer of the Commission. They are constructed on polyconic projections which are based on the United States standard datum of the Coast and Geodetic Survey, and are made on the scales of 1 part in 5,000 or 1 part in 10,000 as the needs of oyster culture may require.

These charts show all the oyster bars, crab bottoms, and clam beds and other boundaries established by the Commission, and also all boundaries of oyster lots leased for the purpose of oyster culture, thus making them comprehensive and valuable records of the results of the operations of the oyster-culture laws.

The lots leased under the provision of the "old 5-acre law" are frequently of irregular shape, but the lots leased under the provision of the new oyster laws must be of rectangular shape by the terms of that act. For this latter purpose the leasing charts have been divided by parallels of latitude and meridians of longitude into small rectangles of 1 acre or 5 acres, as may be best suited to the area under consideration, and prospective leaseholders by the rules of the Commission are compelled to select whole rectangles as far as possible.

For reasons of the present changeable nature of the number of lots leased and the large number of charts required, the leasing charts are not likely to be published for some years, but they can be seen at any time on file at the offices of the Commission, in the Marine Bank Building at Baltimore.

PROJECTIONS.

The polyconic projections[1] covering Kent County waters are 10 in number and on the scale of 1 part in 10,000. They were constructed by draftsmen of the Coast and Geodetic Survey, but the sextant positions which determine the location of the legal boundaries of the oyster bars as delineated by the Shell Fish Commission were plotted by the draftsman of the Commission.

A copy of each of these projections, with all the plotted positions of triangulation stations, shore lines, sextant positions, and boundaries of oyster bars, was made under the direction of the hydrographic engineer of the Commission by pricking through with a sharp needle the intersections of the projection lines and all other points as plotted on the original sheets.

These projections (in duplicate) are the original records of all oyster-bar and other boundaries established by the Commission, one set being filed in the archives of the Coast and Geodetic Survey, at Washington, and the other set in the archives of the Shell Fish Commission.

PROGRESS MAPS.

The progress map to be found at the end of this publication is on a scale of 1 part in 100,000, and shows in outline the work accomplished by the United States Coast and Geodetic Survey in Kent County and contiguous waters. It gives the scheme of all the charts and smooth projections constructed in connection with the survey, the location and names of all triangulation stations used as a basis for the surveying work, and the "boundaries of county waters" established by the Commission for the purpose of carrying out the laws of Maryland relating to oyster culture.

Besides indicating the amount of work done by the Coast and Geodetic Survey in connection with the work of the Shell Fish Commission, this progress map will be of special value for index purposes to engineers and others searching for the particular chart or projection covering the locality of the oyster bars or landmarks that may be under consideration.

The progress maps[2] accompanying the first and second annual reports of the Maryland Shell Fish Commission were prepared under the direction of the hydrographic engineer of the Commission. They are on the scale of 1 part in 400,000, and show the outline of the tide-water counties of Maryland, with shaded areas to indicate the waters already covered by the operations of the oyster survey.

[1] For the scheme of these projections see the progress map at the end of this publication.

[2] These maps and reports can be obtained by application to Maryland Shell Fish Commission, Marine Bank Building, Baltimore, Md

BOUNDARIES OF THE COUNTY WATERS.[1]

WATERS WITHIN TERRITORIAL LIMITS OF COUNTY.

The laws of Maryland relating to oyster culture provide that "no person shall be permitted, by lease, assignment, or in any other manner, to acquire a greater amount of land than ten acres situated within the territorial limits of any of the counties, or one hundred acres in any other place."

The boundary line[2] between the waters "within the territorial limits" of Kent County and the waters in "any other place," as established by the Shell Fish Commission for the purpose of carrying out the oyster laws, and delineated on the "oyster" charts and the smooth projections of the Coast and Geodetic Survey, is technically described and defined as follows:

Following the boundary line between Kent County and Cecil County along the middle of Sassafras River as laid down on the "Progress map" accompanying the report of "Survey of Oyster Bars, Kent County, Maryland," to a point defined by the intersection of this boundary line with a straight line across the mouth of Sassafras River defined by a point at its northern extremity situated on the northern side of Sassafras River in latitude 39° 23′ 15″.0 and longitude 76° 02′ 22″.5 and by a point at its southern extremity situated on the southern side of Sassafras River in latitude 39° 22′ 15″.6 and longitude 76° 03′ 24″.0; thence along a straight line across the southern part of the mouth of Sassafras River to a point situated on the southern side of Sassafras River defined by latitude 39° 22′ 15″.6 and longitude 76° 03′ 24″.0; thence along the mean low water line or a line across the mouth of all inlets less than 100 yards in width, as the case may be, of the southern shore of the entrance to Sassafras River, around Howell Point and along the eastern shore of Chesapeake Bay to a point situated on the northern side of Still Pond defined by latitude 39° 20′ 35″.0 and longitude 76° 08′ 11″.8; thence in a straight line across the entrance to Still Pond to a point situated on the southern side of Still Pond defined by latitude 39° 20′ 02″.0 and longitude 76° 08′ 46″.5; thence along the mean low water line or across the mouth of all inlets less than 100 yards in width, as the case may be, of the eastern shore of Chesapeake Bay around Plum Point and Worton Point to a point situated on the northern side of Worton Creek defined by latitude 39° 17′ 56″.7 and longitude 76° 10′ 40″.8; thence in a straight line across the entrance of Worton Creek to a point situated on the southern side of Worton Creek defined by latitude 39° 17′ 28″.3 and longitude 76° 10′ 54″.3; thence along the mean low water line or across the mouth of all inlets less than 100 yards in width, as the case may be, of the eastern shore of Chesapeake Bay across the mouth of Fairlee Creek past Tolchester Beach to a point situated on Swan Point defined by latitude 39° 08′ 19″.0 and longitude 76° 16′ 42″.1; thence in a straight line across the entrance to Swan Creek and Rockhall Harbor to a point situated on Huntingfield Point defined by latitude 39° 07′ 16″.0 and longitude 76° 14′ 57″.4; thence along the mean low water line or across the mouth of all inlets less than 100 yards in width, as the case may be, of the eastern shore of Chesapeake Bay to a point situated on Wilson Point defined by latitude 39° 03′ 11″.2 and longitude 76° 13′ 40″.0; thence in a straight line across the mouth of a small bay to a point situated on the eastern side of the entrance to Chester River defined by latitude 39° 02′ 45″.3 and

[1] For a complete historical and legal description of the boundaries of the counties of Maryland, the valuable publication entitled "The Counties of Maryland—Their Origin, Boundaries, and Election Districts," prepared by Dr. Edward B. Mathews and published by the Maryland Geological Survey under the direction of Dr. William Bullock Clark, Superintendent, should be consulted, as the boundaries described in this publication have been established and technically defined for the purpose of carrying out the oyster laws of the State, and may or may not be correct for other purposes.

[2] See Charts of Natural Oyster Bars, published by the Coast and Geodetic Survey, and the progress map at the end of this publication.

longitude 76° 14′ 05″.3; thence in a straight line ending at a point situated on Love Point on the western side of Chester River defined by latitude 39° 02′ 25″.5 and longitude 76° 18′ 10″.0 to a point on this straight line defined by its intersection with the channel boundary line between Kent County and Queen Annes County as laid down on "Chart No. 29, Natural Oyster Bars, Maryland;" thence up the channel of Chester River following the boundary line between Kent County and Queen Annes County as laid down on "Charts Nos. 29 and 30, Natural Oyster Bars, Maryland;" thence continuing up the channel of Chester River following the boundary line between Kent County and Queen Annes County to the State boundary line between Maryland and Delaware.[1]

WATERS CONTIGUOUS TO COUNTY.

The oyster laws of Maryland provide that a true and accurate delineation of all natural oyster bars shall be made on copies of charts of the United States Coast and Geodetic Survey, "which said copies shall be filed in the office of the said Commissioners in the city of Baltimore," and "in the office of the clerks of the circuit courts for the respective counties wherein the grounds so designated may lie."

For the purpose of carrying out the latter part of this section of the law and for the purpose of establishing the limits of the oyster-culture area to be opened up for leasing with each county surveyed, it is necessary for the Shell Fish Commission to establish a boundary line between the waters contiguous to but not within the territorial limits of each county and the waters contiguous to but not within the territorial limits of adjacent counties.

This boundary line has been delineated on "Charts of Natural Oyster Bars," and "Progress Maps" published by the Coast and Geodetic Survey, and is technically described and defined as follows:

Commencing at a point defined by the intersection of a straight line across the mouth of Sassafras River which straight line is defined by a point at its northern extremity situated on the northern side of Sassafras River in latitude 39° 23′ 15″.0 and longitude 76° 02′ 22″.5 and by a point at its southern extremity situated on the southern side of Sassafras River in latitude 39° 22′ 15″.6 and longitude 76° 03′ 24″.0 and the boundary line between Kent County and Cecil County along the middle of Sassafras River as laid down on the "Progress map" accompanying the report of "Survey of Oyster Bars, Kent County, Maryland;" thence in a straight line along the channel of the entrance to Sassafras River and across a part of Chesapeake Bay to a point in Chesapeake Bay about 1½ miles northwest by west of Howell Point and 1¾ miles south-southeast of Stony Point defined by latitude 39° 22′ 55″.0 and longitude 76° 08′ 05″.0; thence in a straight line with Chesapeake Bay to a point about 2¼ miles west of Worton Point and 2½ miles northeast of Pooles Island defined by latitude 39° 19′ 00″.0 and longitude 76° 13′ 43″.5; thence in a straight line with Chesapeake Bay to a point about 1⅛ miles south of Pooles Island and 3⅝ miles west by south of Fairlee Creek defined by latitude 39° 15′ 30″.0 and longitude 76° 16′ 20″.4; thence in a straight line with Chesapeake Bay to a point about 4 miles west by north of Swan Point and 3⅞ miles east of Seven Foot Knoll Light defined by latitude 39° 09′ 10″.6 and longitude 76° 21′ 00″.0; thence in a straight line with Chesapeake Bay to a point about 2⅝ miles east of Baltimore Light and 3⅝ miles west of Love Point Light defined by latitude 39° 03′ 30″.0 and longitude 76° 21′ 00″.0; thence along the boundary line between Kent County and Queen Annes County across a part of Chesapeake Bay and along the channel of the entrance of Chester River as laid down on "Chart No. 29, Natural Oyster Bars, Maryland," to the intersection of this county boundary line with a straight line defined by a point at its eastern extremity situated on the eastern side of the entrance of Chester River in latitude 39° 02′ 45″.3 and longitude 76° 14′ 05″.3 and by a point at its western extremity situated on Love Point on the western side of the entrance to Chester River in latitude 39° 02′ 25″.5 and longitude 76° 18′ 10″.0.[1]

[1] Latitudes and longitudes based on the United States standard datum of the United States Coast and Geodetic Survey.

LANDMARKS (U. S. COAST AND GEODETIC SURVEY TRIANGULATION STATIONS).

EXPLANATION.

The oyster laws of Maryland authorizing the survey to be made by the Shell Fish Commission provide for "an accurate report of said survey, setting forth such a description of landmarks as may be necessary to enable the said board, or their successors, to find and ascertain the boundary lines of said natural oyster beds, bars, and rocks, as shown by delineation on the maps and charts." The law of the United States authorizing the cooperation of the Department of Commerce and Labor in the survey of natural oyster bars of Maryland provides for the erection of "such structures as may be necessary to mark the points of triangulation, so that the same may be used for such future work of the Coast and Geodic Survey as the said Bureau may be hereafter required to perform in prosecuting the Government coast survey of the navigable waters of the United States located within the State of Maryland."

Under the provisions of the sections of the laws stated above, the markings and descriptions of landmarks must be sufficient for the present and future needs of both the Government and the State. With this end in view, considerable work has been expended in erecting permanent monuments at the triangulation stations and in the proper description of their location.

An effort has been made to arrange the descriptions of location and character of landmarks in a uniform and logical manner. The descriptions start with the assumption that the individual seeking a landmark has only an indefinite idea of its location. They gradually proceed from description of the general locality of a landmark to the descriptions of its immediate surroundings. This is followed by specific details of the character of the center and reference marks and a "round" of reference angles and distances which in themselves frequently contain enough information to furnish an independent and reliable location of the triangulation station.

METHOD OF DESCRIBING TRIANGULATION STATIONS.

The separate descriptions of triangulation stations should not be used without reading the following explanation of the method of describing the triangulation stations, as it contains certain details that are common to all the landmarks described in this publication and which are omitted in the separate descriptions as being needless repetitions:

Name.—The title at the top of each separate description is the name by which the landmark or triangulation station is known and designated in all work and published oyster records or oyster charts of both the Government and State. The selection of the name is usually left to the triangulator establishing the station, and it may or may not have geographic or other significance in reference to the locality.

General locality.—Under this heading is given the general locality of the landmark in reference to well-known and prominent natural or artificial features, such as the

nearest body of water, town, river, steamer wharf, well-defined point of land, church, or any other feature that is likely to remain both permanent and prominent.

This heading also covers a reference to the published chart or map which shows the location of the station most clearly. Nearly all the triangulation stations described in this publication are plainly indicated by name and a triangulation symbol on the published charts of oyster bars of Maryland. In this case they are referred to by serial number only, the words "charts of oyster bars of Maryland" being omitted to avoid needless repetition. These published oyster charts are on the large scale of 1 part in 20,000 (approximately $3\frac{1}{6}$ inches to a statute mile) and show the location of the triangulation stations so clearly that in many cases the written descriptions will not be required to find them.

Immediate locality.—Under this heading is given the description of the "observed station" in reference to its immediate surroundings. This is supposed to include a statement of the station's estimated elevation above high water or some other well-defined level of the locality, such as a road or house; the character of the ground on which it is located, such as marsh land, sand beach, cultivated field, or meadow; estimated bearings in points of the compass and estimated distances in yards *from* (*not to*) easily recognized features, such as extreme end of point, edge of bluff, bank of creek, line of telephone poles, shore line, barn, house, fence, ditch, trees, or any other definite detail, such as being on range with the tangent of an island and a church; and so forth.

When a standard monument has been established near the station as a "reference station," this heading also covers a statement of the true bearing of the monument in degrees and minutes and its measured distance in meters, as it is the first object that is likely to catch the eye when the immediate vicinity of the desired station is reached and might be mistaken for the center mark of the "observed station" unless special attention is called to it.

The distinction between the "observed station" and "reference station" should be carefully noted by anyone making use of the description of stations for any future surveying operations.

The "observed station" is located at the particular triangulation point covered by the description of stations, and is the one whose geographic position is first computed, as it is the point which was "occupied" and "observed on" for horizontal angles. However, in spite of the primary importance of the location of the "observed station," it will be noted from the description of stations that frequently it is not marked as well as the "reference station," and in many instances has only a pine stub to indicate its position. This is the case for the reason that the necessity of intervisibility of landmarks usually made it compulsory to locate "observed stations" on edges of banks and ends of points of land, which in the tide-water section of Maryland generally means they will be washed away in a short period of years. The past experience of the Coast and Geodetic Survey in this region has shown the great need of "reference stations," if the frequent reestablishment of a new framework of triangulation is to be avoided.

The chief reason and need for the establishment of the "reference station," or secondary station, as it might be well named, is explained in the preceding paragraph, but in several instances other reasons, such as the location of the "observed station" on an unstable sand dune, in a cultivated field, in front of a residence, or other places objectionable to the landowner, have led to establishment of "reference stations."

The location of the "reference station" in relation to the "observed station" is fixed for plotting on charts or for computation of its geographic position by checked measurements of its distances and azimuth from the "observed station." [1]

Marks.—Under this heading is given a description of the character of the permanent monuments or other marks of the location of the "observed station," and of the "reference station" where one has been established.

All the marks designated in the descriptions as "the center point of triangle on standard cement monument" are exactly alike. These monuments are made of cement, sand, and gravel, and are 2 feet long and 8 inches square at top and bottom. Their tops are all marked with the same brass mold and show a center hole surrounded by a triangle, with the letters "M. S. F. C." arranged around the vertex and the letters "U. S. C. S." underneath the base of the triangle. The center hole is always in the center of the top of the monument by construction, and if this is found to have been broken off without disturbing the bottom the center of its square section can be used as the location of the station.

All the "standard cement monuments," whether used for marking the "observed station" or "reference station," have been planted upright in exactly the same manner, with their tops projecting 3 or 4 inches above the surface of the ground, unless otherwise stated.

Therefore, as the above facts in reference to the "standard cement monuments" are a constant element in all cases, the repetition of these facts in the description of stations is made needless by this one statement.

References.—Under this heading are given the "rounds" of directions and distances to all objects that might be useful in locating the stations when the surface marks can not be found. It is also contemplated that for general purposes of topography, hydrography, or location of boundaries of oyster bars these references will be sufficient in many cases to relocate the position of an "observed station" or "reference station" when both of them have been destroyed.

The first reference object given in the descriptions is always a triangulation station visible from the station being described, this, if possible, being a lighthouse, church spire, or other permanent and prominent point. Its direction is taken as being 0° 00′ 00″, and the directions of all other objects are measured from it as an initial point, the angles being taken in a clockwise direction (left to right).

The true bearing [2] of the initial object is always given in parentheses alongside its name. This furnishes means for the calculation of the bearings of any of the other reference objects for the purposes of locating a station by horizontal angles or for the relocation of corner buoys of oyster-bar boundaries by the method of compass directions described in this publication under the heading of "Boundaries of oyster bars."

The distances in the last column under "References" are given in three different units, which vary according to their accuracy. The "miles" are statute miles and may be considered only as rough estimates. The "yards" are more accurate, but must be looked on as results generally obtained by pacing or careful estimating. The "meters,"

[1] Geographic coordinates (latitude, longitude, distance, and azimuth) relating to any of the "observed stations" or of the "reference stations" described in this publication can be obtained by application to the Superintendent of the Coast and Geodetic Survey, at Washington, D. C.

[2] The mean magnetic variation for Kent County was 6° 15′ west of north in 1911 and increasing at the rate of 5′ yearly.

however, are accurate to the degree indicated by their decimals, and in every case have been measured with a steel tape. In the same manner the accuracy of the directions are indicated by the refinement of angular measure with which they are recorded.

DESCRIPTIONS OF TRIANGULATION STATIONS.

WORTON POINT 2.

General locality.—Eastern shore of Chesapeake Bay, on Worton Point, about 1⅜ miles north of mouth of Worton Creek and 4½ miles northeast of north end of Pooles Island. (See Chart No. 28.)

Immediate locality.—Observed station is on tree and bush fringed bluff about 30 feet above high water, 2 yards east-southeast of edge of bluff and 1 yard south-southwest of a very small ravine. Cement monument marking reference station is 14.05 meters S 61° 17′ E of observed station.

Marks.—Observed station is center of 4-inch tile pipe with top 6 inches below surface of ground. Subsurface mark is center of 4-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—

	°	′	″	
"Pooles Island 2" (S 62° 18′ W)	0	00	00	4⅝ miles.
Right tree on Pooles Island	3	17	..	4½ miles.
South peak of small house	42	46	..	4½ miles.
Left peak of house	74	43	..	4½ miles.
Nail in blaze in ash tree (2½ inches diameter)	88	42	40	1.06 meters.
Chimney outside of right end of old house	94	07	..	3½ miles.
Chimney near left end of roof of house with gables	116	04	..	4¾ miles.
Nail in blaze in ash tree (3 inches diameter)	154	28	10	4.24 meters.
REFERENCE STATION	236	25	00	14.05 meters.
Nail in blaze in locust tree (5 inches diameter)	310	44	20	4.61 meters.

POOLES ISLAND LIGHT.

General locality.—Upper Chesapeake Bay, on northwest side of Pooles Island. (See Chart No. 28.)

Immediate locality.—Observed station is on a detached tower known as Pooles Island Lighthouse.

Marks.—Observed station is center point of lantern on tower.

References.—

	°	′	″	
"Craighill Channel Light (Front Range)" (S 44° 19′ W)	0	00	00	10 miles.

POOLES ISLAND 2.

General locality.—Upper Chesapeake Bay, on Pooles Island, about one-fourth mile southeast of Pooles Island Light and one-fourth mile north by west of Pooles Island Wharf. (See Chart No. 28.)

Immediate locality.—Observed station is in a peach orchard on highest ground on northern part of Pooles Island, about 500 yards southeast of Pooles Island Light and 370 yards north by west of farmhouse. The angle at the southwest corner of the farmhouse between the windmill at the barn and the observed station is 84°, and the angle at the observed station between the light tower and the fog-bell tower is 2° 47′.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument. (NOTE.—These marks replace old ones of 1896.)

References.—	°	′	″		
"Pooles Island Light" (N 47° 16′ W)	0	00	00		452 meters.
Break in bluff on east shore of bay showing through peach trees	153	12			3¼ miles.
Center of chimney of small house in rear of dwelling	215	00			¼ mile.
Center of middle one of three chimneys on dwelling	218	03			¼ mile.
Center of cupola on small building	220	50			¼ mile.
Near gable of barn	238	06			¼ mile.
Windmill	241	56			¼ mile.
Center one of four nails in apple tree	336	24	10		33.72 meters.

BRAMBLE.

General locality.—Eastern shore of Chesapeake Bay, about 3 miles southeast of center of Pooles Island, 3 miles north-northeast of Tolchester Beach, and 1¼ miles southwest of entrance to Fairlee Creek. (See Chart No. 28.)

Immediate locality.—Observed station is on a tree and bush fringed bluff about 30 feet above high water, 3 yards east of edge of bluff, 3 yards west of edge of cultivated field, 35 yards southwest of trees at edge of gully, and 200 yards west of other trees. Cement monument marking reference station is 47.16 meters N 67° 05′ E of observed station.

Marks.—Observed station is 2-inch stub projecting 3 inches above surface of ground. Subsurface mark is beer bottle buried below base of stub. Reference station is center point of triangle on standard cement monument projecting 2 inches above surface of ground.

References.—	°	′	″		
"Craighill Channel Light (Rear Range)" (S 78° 44′ W)	0	00	00		9⅜ miles.
Left tree on Pooles Island	37	53			3 miles.
Windmill on middle of long building on Pooles Island	54	00			2⅞ miles.
North peak of house with several gables on Pooles Island	55	21			2⅞ miles.
"Pooles Island Light"	57	19	00		3⅜ miles.
REFERENCE STATION	168	21	00		47.16 meters.
Cupola on barn	250	24	40		1 mile.
"Craighill Channel Light (Front Range)"	344	34	10		10¾ miles.
"Fort Howard Taller Water Tank"	354	30	00		12½ miles.
Left one of two smokestacks at Sparrows Point	359	35			14¼ miles.

MITCHELLS BLUFF 2.

General locality.—Eastern shore of Chesapeake Bay, on Mitchells Bluff, just north of first break in bluff, about five-eighths mile north-northeast of Tolchester Beach Wharf. (See Chart No. 28.)

Immediate locality.—Observed station is in cultivated ground about 30 feet above high water, 13 yards southeast of edge of bluff, 50 yards northeast of point of gully where fishermen haul up gear, 70 yards south of small clump of trees, and one-fourth mile northwest of a large farmhouse.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is wire in center of 2-inch tile pipe buried with top 2 inches below base of monument. (NOTE.—Subsurface mark is either a part or replaces the original one of 1896.)

References.—

	°	′	″		
"Craighill Channel Light (Rear Range)" (N 87° 52′ W)	0	00	00	.....	8⅜ miles.
Chimney at left end of house on opposite shore	57	00	..	.....	6¼ miles.
Chimney at left end of house on Pooles Island	71	11	..	.....	4¼ miles.
Chimney on middle of roof of building beyond trees	170	10	..	.....	⅝ mile.
Spidle of weather vane on middle cupola of barn	200	28	30	.....	¼ mile.
Near corner of large west chimney of house	210	54	..	.....	¼ mile.
West peak of barn	260	07	..	.....	⅜ mile.
"Seven Foot Knoll Light"	330	18	30	.....	10¼ miles.
"Craighill Channel Light (Front Range)"	341	20	40	.....	8¾ miles.

CRAIGHILL CHANNEL LIGHT (FRONT RANGE).

General locality.—Western side of Chesapeake Bay, about 2 miles offshore and about 2¾ miles east of North Point at entrance to Patapsco River. (See progress map.)

Immediate locality.—Observed station is on dwelling on cylindrical foundation known as Craighill Channel Light (Front Range).

Marks.—Observed station is center point of lantern on Craighill Channel Light (Front Range).

References.—

	°	′	″		
"Craighill Channel Light (Rear Range)" (N 0° 01′ W)	0	00	00	.....	2¾ miles.

CRAIGHILL CHANNEL LIGHT (REAR RANGE).

General locality.—Western side of upper Chesapeake Bay about 200 yards offshore from the southwestern end of Hart Island. (See progress map.)

Immediate locality.—Observed station is on a tall square pyramidal skeleton steel frame structure known as Craighill Channel Light (Rear Range).

Marks.—Observed station is center point of lantern on Craighill Channel Light (Rear Range).

References.—

	°	′	″		
"Craighill Channel Light (Front Range)" (S 0° 01′ E)	0	00	00	.....	2¾ miles.

FORT HOWARD TALLER WATER TANK.

General locality.—Northern side of entrance to Patapsco River about one-half mile north-northwest of North Point. (See progress map.)

Immediate locality.—Observed station is the taller of two steel water tanks on steel towers at Fort Howard.

Marks.—Observed station is center point of pipe attached to center of bottom of tank.

References.—None necessary.

SEVEN FOOT KNOLL LIGHT.

General locality.—Western side of Chesapeake Bay off entrance to Patapsco River about 2½ miles north-northeast of Bodkin Point and 3¼ miles southeast of North Point. (See progress map.)

Immediate locality.—Observed station is on an octagonal screw pile structure known as Seven Foot Knoll Lighthouse.

Marks.—Observed station is center point of lantern on Seven Foot Knoll Light.

References.—

	°	′	″		
"Bodkin Point (Old Tower)" (S 30° 03′ W)	0	00	00	.....	1½ miles.

BODKIN POINT (OLD TOWER).

General locality.—Southern side of entrance to Bodkin Creek on Bodkin Point. (See progress map.)

Immediate locality.—Observed station is about 15 yards east of an old stone dwelling on top of an old tower formerly used as a lighthouse.

Marks.—Observed station is center of drill hole abut 2 inches in diameter and 3 inches deep in stone platform on and near center of top of tower.

References.

	°	′	″		
"Seven Foot Knoll Light" (N 30° 04′ E)...	0	00	00	.....	1½ miles.

SWAN POINT 3.

General locality.—Eastern shore of Chesapeake Bay on Swan Point about 5½ miles south-southwest of Tolchester Beach Wharf and 7 miles north of Love Point. (See Chart No. 28.)

Immediate locality.—Observed station is on sand and marsh point about 2 feet above high water, 5 feet east of shore, 60 yards south-southwest of a fisherman's cabin, and 250 yards from the extreme end of Swan Point. Cement monument marking old reference station is in marsh 21.43 meters N 89° 13′ E of observed station. Standard cement monument marking new reference station is on line to old reference station 13.26 meters N 89° 13′ E of observed station.

Marks.—Observed station is ¼-inch copper rod set in an 8-inch square cement monument with top about 5 inches below surface of ground. Subsurface mark is the neck of a flask set in cement about 4 feet below the surface. New reference station is center point of triangle on standard cement monument. Old reference station is eastern one of two ¼-inch copper rods in an 8-inch cement monument.

References.—

	°	′	″		
"Love Point Light" (S 2° 11′ W).....	0	00	00	.....	5¾ miles.
"Baltimore Light".....	46	07	00	.....	8½ miles.
Stack on garbage plant at Bodkin Point....	82	21	..	.....	8¼ miles.
"Seven Foot Knoll Light".....	95	04	50	.....	7 miles.
Left stack at Sparrows Point.....	111	12	..	.....	12¼ miles.
"Fort Howard Taller Water Tank".....	112	28	20	.....	9⅞ miles.
"Craighill Channel Light (Front Range)"..	114	59	50	.....	7 miles.
"Craighill Channel Light (Rear Range)"...	131	46	20	.....	8¾ miles.
Chimney of cabin.....	203	54	..	.....	58 yards.
Gable of Rockhall Wharf house.....	264	07	..	.....	1 mile.
OLD REFERENCE STATION.....	267	02	20	.....	21.43 meters.
NEW REFERENCE STATION (STANDARD CEMENT MONUMENT).....	267	02	20	.....	13.26 meters.
Chimney of house to right of Windmill Point.....	292	12	..	.....	2 miles.
Gable of barn.....	303	49	..	.....	2½ miles.
Gable of barn near Wickes Beach.....	340	52	..	.....	7⅝ miles.

BANK.

General locality.—Eastern shore of Chesapeake Bay on western side of entrance to Tavern Creek, about ⅝ mile northeast of Swan Point. (See Charts Nos. 28 and 29.)

Immediate locality.—Observed station is in a cultivated field about 7 feet above high water, 12 yards inshore, and 2 yards from edge of bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Love Point Light" (S 7° 27′ W)	0	00	00	.....	6⅛ miles.
"Baltimore Light"	42	32	50	.....	9 miles.
Nail in blaze in locust tree (3 inches diameter)	56	04	00	.....	10.39 meters.
Chimney of fishing shack on Swan Point	71	17	..	.....	½ mile.
"Seven Foot Knoll Light"	88	14	40	.....	7½ miles.
West gable of Strong barn	153	39	..	.....	⅜ mile.
Southwest corner of Strong house	174	09	..	.....	⅜ mile.
Chimney of tenant house	212	55	..	.....	¾ mile.
North gable of barn	250	47	..	.....	1⅜ miles.
Thompson windmill	271	47	..	.....	½ mile.
West gable of Rockhall Wharf house	274	08	..	.....	⅜ mile.
North gable of Downey house	278	49	..	.....	½ mile.
Nail in blaze in locust tree (4 inches diameter)	292	56	20	.....	10.32 meters.
South one of twin trees on Little Neck Island	352	59	..	.....	¼ mile.

TAVERN.

General locality.—Eastern shore of Chesapeake Bay on western side of Tavern Creek about three-eighths mile north of entrance to creek, 1 mile northeast of Swan Point and one-half mile northwest of Rockhall Landing. (See Chart No. 28.)

Immediate locality.—Observed station is in the eastern side of peach and apple orchard about 1 foot above high water, 152 yards northwest of shore, 165 yards west of shore, 8 yards west of edge of sage land, 15 yards west of a wire fence, 18 yards south of another wire fence, 52 yards nortn of still another wire fence, and 125 yards east of a house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Orchard" (S 50° 31′ E)	0	00	00	.....	⅜ mile.
Gilt ball on lightning rod near left end of house	1	38	..	.....	½ mile.
Apple tree (18 inches diameter)	63	21	..	.....	49 yards.
Nail in blaze in apple tree (20 inches diameter)	83	59	00	.....	35.02 meters.
Nail in blaze in apple tree (24 inches diameter)	117	21	50	.....	14.99 meters.
Nail in blaze in peach tree (5 inches diameter)	166	42	20	.....	10.39 meters.
Nail in blaze in apple tree (18 inches diameter)	203	53	30	.....	19.49 meters.
Center of chimney at right end of roof of house with ell	276	08	..	.....	1¾ miles.

CORR.

General locality.—Eastern shore of Swan Creek about 1¼ miles north of Rockhall Landing. (See Chart No. 28.)

Immediate locality.—Observed station is about 1 foot above high water, 6 yards northeast of rounded point of shore, 13 yards northwest of square cut in shore, 13 yards southeast of point where wire fence meets shore, and 50 and 65 yards south by west of two large trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Spike" (S 0° 49′ W)	0	00	00	¼ mile.
Chimney of house	14	58	..	1⅛ miles.
Chimney of old house	35	50	..	¾ mile.
Right chimney of Strong house	48	12	..	1 mile.
Near peak of house between two barns	99	35	..	⅝ mile.
Large square chimney of large brick house	142	52	..	½ mile.
North chimney of brick house	204	34	..	150 yards.
East chimney of large house	245	41	..	⅜ mile.
Chimney of old house	311	05	..	½ mile.

URIE.

General locality.—Western shore of Swan Creek about 1 mile north of Rockhall Landing. (See Chart No. 28.)

Immediate locality.—Observed station is on a slight projection of the shore about 1 foot above high water and 4 yards west of shore. Cement monument marking reference station is 4.76 meters S 21° 35′ W of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 1 inch above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface mark. Reference station is center point of triangle on standard cement monument projecting 5 inches above surface of ground.

References.—	°	′	″	
"Corr" (N 79° 13′ E)	0	00	00	¼ mile.
Near peak of barn near several buildings	27	24	..	½ mile.
Chimney of large house	54	05	..	1 mile.
Near peak of large house	75	58	..	1¼ miles.
Gilt ball on weather vane	89	12	..	1¼ miles.
REFERENCE STATION	124	21	45	4.76 meters.
Nail in blaze in black thorn tree (6 inches diameter)	124	34	40	5.37 meters.
Nail in blaze in black thorn tree (6 inches diameter)	134	40	30	4.84 meters.
Nail in blaze in water bush (3 inches diameter)	200	26	10	3.69 meters.
Nail in blaze in water bush (4 inches diameter)	257	42	40	10.82 meters.
Near peak of barn	277	15	..	½ mile.
West large chimney on west end of large brick house	340	24	..	1 mile.
Left chimney of Corr house	347	10	..	¼ mile.

SPIKE.

General locality.—Eastern shore of Swan Creek, about seven-eighths mile north-northeast of Rockhall Landing. (See Chart No. 28.)

Immediate locality.—Observed station is among trees and bushes about 2 feet above high water, 30 yards east of shore, and 1 yard west of edge of cultivated field.

Marks.—Observed station is center point of triangle on standard cement monument projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Rail" (S 23° 07′ E)	0	00	00	.....	¼ mile.
Nail in blaze in locust tree (3 inches diameter)	13	11	40	.....	5.02 meters.
Nail in blaze in locust tree (5 inches diameter)	28	22	10	.....	6.11 meters.
Windmill at Gratitude	42	29	..	.....	1 mile.
Chimney of old house	76	04	..	.....	½ mile.
Chimney on main part of Strong house	83	52	..	.....	1 mile.
Nail in blaze in locust tree (4 inches diameter)	133	31	10	.....	3.61 meters.
Right peak of right-hand barn	143	51	..	.....	¾ mile.
Large square chimney of large brick house	179	19	..	.....	¾ mile.
North chimney of brick house	209	32	..	.....	⅞ mile.
North peak of old barn	271	06	..	.....	¼ mile.

ELLIASON.

General locality.—Western shore of Swan Creek on a point of land at north side of entrance to a small cove about three-fourths mile north of Rockhall Landing. (See Chart No. 28.)

Immediate locality.—Observed station is about 2 feet above high water, 16 yards west by north of shore, 23 yards north-northwest of shore, 30 yards northeast of shore, and 33 yards north by east of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Corr" (N 33° 57′ E)	0	00	00	.....	⅜ mile.
Large chimney of 2½-story house	9	08	..	.....	1⅜ miles.
West peak of barn	40	53	..	.....	½ mile.
South chimney of house	60	58	..	.....	⅞ mile.
Right chimney of house	98	12	..	.....	1¼ miles.
Main chimney of house on Rockhall Road	106	56	..	.....	1¼ miles.
Large house on Rockhall Road	114	04	..	.....	1¼ miles.
Windmill at Gratitude	152	43	..	.....	¾ mile.
Gilt ball on lightning rod	155	34	30	.....	¾ mile.
Weather vane on Rockhall Wharf house	160	53	40	.....	1 mile.
East chimney of Strong house	202	52	..	.....	⅝ mile.
Near peak of very large brick house	320	02	..	.....	¾ mile.
South chimney of large house	359	14	..	.....	½ mile.

RAIL.

General locality.—Eastern shore of Swan Creek about three-fourths mile northeast of Rockhall Landing. (See Chart No. 28.)

Immediate locality.—Observed station is on a low point about 2 feet above high water, 3 yards back from shore, and west of a number of small locust trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Fork" (S 72° 56′ W)	0	00	00	¼ mile.
Chimney of tenant house	12	01	..	¼ mile.
South gable of Henson barn	56	36	..	⅝ mile.
South gable of corncrib	86	18	..	1 mile.
South gable of Swatska house	143	41	..	⅜ mile.
Nail in blaze in locust tree (4 inches diameter)	161	38	00	9.94 meters.
Nail in blaze in locust tree (3 inches diameter)	192	52	50	14.96 meters.
Nail in blaze in locust tree (3 inches diameter)	235	52	40	19.24 meters.
North chimney of house	255	16	..	¾ mile.
Highest chimney of house	268	50	..	1 mile.
East chimney of Frank Ayers's house	288	15	..	¾ mile.
East chimney of Georgia Ayers's house	306	20	..	½ mile.
Chimney of Sullivan house	310	34	..	½ mile.
Thompson windmill	322	09	20	¾ mile.
North chimney of Burgess house	327	18	..	⅝ mile.
Chimney of fishing shack	339	26	..	⅝ mile.

FORK.

General locality.—Western shore of Swan Creek, about one-half mile north-northeast of Rockhall Landing and three-eighths mile northwest of entrance to The Haven. (See Chart No. 28.)

Immediate locality.—Observed station is on marsh land about 2 feet above high water, 25 yards inshore, and 200 yards from extreme south end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Treasure" (S 24° 29′ E)	0	00	00	⅜ mile.
East chimney of Georgia Ayers's house	14	30	..	⅜ mile.
Chimney of Sullivan house	32	14	..	¾ mile.
Chimney of house	52	07	..	½ mile.
East chimney of Strong house	105	55	..	⅝ mile.
Chimney of Elliason house	119	42	..	¼ mile.
Nail in blaze in locust tree (3 inches diameter)	234	20	10	11.15 meters.
Chimney of Swatska tenant house	252	52	..	⅝ mile.
North chimney of Biglow house	279	57	..	⅞ mile.
North chimney of house	322	06	..	⅝ mile.
Rockhall M. E. Church Spire	334	41	50	1½ miles.
Highest chimney of house	350	35	..	1 mile.
East chimney of Frank Ayers's house	359	25	..	¾ mile.

HAVEN.

General locality.—Eastern shore of Swan Creek at northern side of entrance to The Haven about five-eighths mile east-northeast of Rockhall Landing. (See Charts Nos. 28 and 29.)

Immediate locality.—Observed station is on a long marsh point about 2 feet above high water, 5 yards back from high-water mark, and 7 yards west and 8 yards north of large pine trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Fork" (N 57° 38′ W)	0	00	00	⅜ mile.
Nail in blaze in oak tree (15 inches diameter)	21	28	50	9.82 meters.
South gable of corncrib	36	46	..	1¼ miles.
Nail in blaze in pine tree (18 inches diameter)	108	47	10	6.69 meters.
North chimney of Shamokin house	136	18	..	⅜ mile.
North chimney of house	166	44	..	¼ mile.
Nail in blaze in pine tree (18 inches diameter)	175	43	50	7.20 meters.
North gable of house	215	44	..	⅝ mile.
Thompson windmill	299	28	40	⅝ mile.
South chimney of Burgess house	301	29	..	⅝ mile.
Chimney of tenant house	348	59	..	⅝ mile.

TREASURE.

General locality.—Eastern and southern shore of Swan Creek on a point at western side of entrance to The Haven, about one-half mile east-northeast of Rockhall Landing. (See Charts Nos. 28 and 29.)

Immediate locality.—Observed station is on a marsh point below high water, about 25 yards inshore, and 300 yards northeast of a house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Orchard" (S 85° 00′ W)	0	00	00	⅜ mile.
West gable of Strong barn	17	23	..	1 mile.
South gable of barn	60	52	..	¾ mile.
South gable of barn	108	18	..	¾ mile.
Lone pine tree on opposite shore	155	48	..	¼ mile.
West gable of barn	183	38	..	½ mile.
Rockhall M. E. Church Spire	218	35	10	1¼ miles.
North gable of house	230	15	..	⅝ mile.
West gable of house	235	56	..	1 mile.
East pine tree of group	243	57	..	¼ mile.
East chimney of Ayers's house	311	19	..	300 yards.
East gable of small barn	338	07	..	⅜ mile.
Nail in blaze in dead locust tree (8 inches diameter)	344	28	20	37.98 meters.
Nail in blaze in dead locust tree (8 inches diameter)	353	04	40	36.32 meters.

ORCHARD.

General locality.—Eastern and southern shore of Swan Creek on point of land about one-eighth mile north of Rockhall Landing. (See Charts Nos. 28 and 29.)

Immediate locality.—Observed station is on a sand and grass point about 3 feet above high water, 7 yards west of peach orchard, 6 yards east of shore, 33 yards west-southwest of shore, 31 yards south of extreme end of point, 23 yards north of a wire fence, and 53 yards north of a house. Cement monument marking reference station is 9.67 meters N 83° 04′ E of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface mark. Reference station is center point of triangle on standard cement monument projecting 2 inches above surface of ground.

References.—	°	′	″		
"Bank" (S 78° 45′ W)	0	00	00	.....	⅜ mile.
East chimney of house	42	23	..	.....	½ mile.
South peak between two chimneys of large house	105	51	20	.....	1⅜ miles.
Chimney of an old long building	144	20	..	.....	1 mile.
Nail in blaze in locust tree (7 inches diameter)	176	02	30	.....	21.85 meters.
REFERENCE STATION	184	19	20	.....	9.67 meters.
Nail in blaze in peach tree (5 inches diameter)	226	56	40	.....	8.07 meters.
Right corner of 1½-story building	229	59	20	.....	32.57 meters.
Northwest corner of house	267	21	10	.....	53 yards.
Nail in blaze in tree (13 inches diameter)	274	07	20	.....	21.60 meters.
West peak of 2-story wharf house	294	56	40	.....	⅛ mile.
Chimney of house on Swan Point	360	00	..	.....	1 mile.

GRATITUDE.

General locality.—Eastern shore of Chesapeake Bay at eastern side of entrance to Swan Creek, opposite middle of Little Neck Island, and near old Rockhall Wharf. (See Charts Nos. 28 and 29.)

Immediate locality.—Observed station is on a marsh meadow about 1 foot above high water, 12 yards east of shore, 150 yards southwest of a house, and 400 yards south-southwest of Rockhall Landing.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Love Point Light" (S 11° 46′ W)	0	00	00	.....	5⅞ miles.
"Sandy Point Light"	26	05	10	.....	10¾ miles.
"Baltimore Light"	41	21	20	.....	9⅜ miles.
Chimney of fishing shack on Swan Point	90	47	..	.....	1 mile.
Left tangent of piles of old Rockhall Wharf	124	15	..	.....	200 yards
West gable of Strong barn	130	49	..	.....	¾ mile.
Chimney of tallest wharf house at Rockhall Landing	162	15	..	.....	¼ mile.
Chimney of house	166	19	..	.....	1 mile.
Post on northwest corner of Downey porch	196	57	..	.....	150 yards.
Nail in blaze in cedar tree (10 inches diameter)	273	02	40	.....	107 yards.
North gable of old barn	276	36	..	.....	200 yards.
North gable of barn	309	21	..	.....	1⅝ miles.

WINDMILL POINT.

General locality.—Eastern shore of Chesapeake Bay on Windmill Point at northern side of entrance to Rockhall Harbor. (See Chart No. 29.)

Immediate locality.—Observed station is on low marsh land about level with high water, about 30 yards back from end of point, and 20 yards south of a group of large pine trees. Cement monument marking reference station is 24.13 meters N 20° 14′ E of observed station.

Marks.—Observed station is center point of 2-inch tile pipe filled with sand with top about flush with surface of ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Love Point Light" (S 17° 47′)	0	00	00	.....	5½ miles.
Nail in blaze in pine tree (18 inches diameter)	146	39	30	.....	17.33 meters.
Nail in blaze in pine tree (24 inches diameter)	178	03	00	.....	23.57 meters.
REFERENCE STATION	182	27	00	.....	24.13 meters.
Nail in blaze in pine tree (20 inches diameter)	216	10	20	.....	16.52 meters.
Rockhall M. E. Church Spire	238	05	40	.....	1 mile.
Highest gable on Sharps Wharf	246	42	..	.....	⅜ mile.
East chimney of house	271	27	..	.....	½ mile.
Chimney of small house	287	55	..	.....	½ mile.
West chimney of small house	311	04	..	.....	1 mile.

STEVENS.

General locality.—Eastern shore of Chesapeake Bay about one-fourth mile south of Huntingfield Point at entrance to Huntingfield Creek. (See Chart No. 29.)

Immediate locality.—Observed station is in a cultivated field about 15 feet above high water, 55 yards back from edge of vertical bank 3 feet higher than station, and 450 yards south of the extreme end of Huntingfield Point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Love Point Light" (S 25° 03′ W)	0	00	00	.....	4⅝ miles.
Right tangent of Love Point	12	13	..	.....	6½ miles.
Southeast corner of fishing shack on Swan Point	111	24	..	.....	2½ miles.
East gable of Strong barn	125	42	..	.....	2½ miles.
Thompson windmill	135	01	20	.....	2 miles.
Chimney of house	150	32	..	.....	1¼ miles.
Nail in blaze in cedar tree (10 inches diameter)	155	24	20	.....	200 yards.
Wicks windmill	223	16	20	.....	1 mile.
Nail in blaze in locust tree (18 inches diameter)	227	23	00	.....	110 yards.
Chimney of small house	239	58	..	.....	1 mile.
Nail in blaze in persimmon tree (10 inches diameter)	275	26	20	.....	130 yards.
Chimney of Stevens tenant house	320	39	..	.....	½ mile.

BALTIMORE LIGHT.

General locality.—Western side of Chesapeake Bay offshore about 1½ miles east of mouth of Magothy River and one-eighth mile west of entrance to dredged channel leading to Baltimore. (See progress map.)

Immediate locality.—Observed station is on brick octagonal dwelling on cylindrical foundation known as Baltimore Lighthouse.

Marks.—Observed station is center point of lantern on Baltimore Lighthouse.

References.—None necessary.

SANDY POINT LIGHT.

General locality.—Western side of Chesapeake Bay offshore about one-half mile east of Sandy Point. (See Chart No. 29 and progress map.)

Immediate locality.—Observed station is on brick dwelling on cylindrical foundation known as Sandy Point Lighthouse.

Marks.—Observed station is center point of lantern on Sandy Point Lighthouse.

References.—

	°	′	″	
"Bodkin Point (old tower)" (N 14° 35′ W)	0	00	00	8½ miles.

RING.

General locality.—Eastern shore of Chesapeake Bay on western side of Kent Island about 2¼ miles south-southwest of Love Point and 3⅜ miles east of Sandy Point. (See Chart No. 29.)

Immediate locality.—Observed station is in a cultivated field about 20 feet above high water, 12 yards inshore, and 2 yards from edge of bank. Cement monument marking reference station is 9.36 meters N 79° 21′ E of observed station.

Marks.—Observed station is center of 4-inch tile pipe with top 3 inches below surface of ground. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—

	°	′	″	
"Sandy Point Light" (N 84° 56′ W)	0	00	00	3⅜ miles.
Cupalo on barn	117	51	..	1 mile.
South chimney of house	141	00	..	¼ mile.
REFERENCE STATION	164	17	10	9.36 meters.
Lone tree (2 inches diameter)	224	10	..	300 yards.
South chimney of house	238	56	..	300 yards.

LOVE POINT LIGHT.

General locality.—Eastern side of Chesapeake Bay at entrance to Chester River offshore about 1½ miles northeast of Love Point. (See Chart No. 29.)

Immediate locality.—Observed station is on hexagonal screw-pile structure known as Love Point Lighthouse.

Marks.—Observed station is center point of lantern on Love Point Lighthouse.

References.—

	°	′	″	
"Wickes Beach" (S 47° 55′ E)	0	00	00	3½ miles.

AMOUR.

General locality.—Northern end of Kent Island at western side of entrance to Chester River, about one-fourth mile southeast of Love Point and three-eighths mile north of Love Point Landing. (See Chart No. 29.)

Immediate locality.—Observed station is on sand and marsh point, about 2 feet above high water, 25 yards inshore, and 55 yards north of fishing shack.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Love Point Light" (N 33° 42′ E)	0	00	00	1⅝ miles.
Left chimney of house	28	28	..	4⅜ miles.
West gable of house on East Neck	48	00	..	3¾ miles.
North gable of barn	54	30	..	3¼ miles.
North gable of house on Cedar Point	76	30	..	5 miles.
Gable of barn	128	18	..	4½ miles.
Left tangent of Kent Island Landing	132	59	..	1¾ miles.
Northeast corner of fishing shack	140	38	..	57 yards.
Nail in blaze in cedar tree (3 inches diameter)	174	43	..	12.46 meters.
"Railway Water Tank"	199	53	50	⅝ mile.
Nail in blaze in cedar tree (4 inches diameter)	206	10	..	11.30 meters.
Nail in blaze in cedar tree (6 inches diameter)	295	02	..	38.88 meters.

RAILWAY WATER TANK.

General locality.—Northern end of Kent Island, about half-way between Chesapeake Bay and Chester River and three-fourths mile south by west of Love Point. (See Chart No. 29.)

Immediate locality.—Observed station is on the only large elevated water tank located just north of the center of the bend of the railway that leaves Love Point Landing.

Marks.—Observed station is center point of top of water tank.

References.—None necessary.

WICKES BEACH.

General locality.—Eastern shore of mouth of Chester River on western side of East Neck Island near Wickes Beach. (See Chart No. 29.)

Immediate locality.—Observed station is on a narrow sand beach about on level with high water, 10 yards back from low water, and 2 yards west of swamp which extends back to woods.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Love Point Light" (N 47° 54′ W)	0	00	00	.....	3 miles.
Nail in blaze in oak tree (15 inches diameter)	60	45	40	.....	300 yards.
Nail in blaze in gum tree (12 inches diameter)	70	59	00	.....	250 yards.
Nail in blaze in oak tree (15 inches diameter)	114	05	50	.....	200 yards.
North cupola of barn	155	15	..	.....	5/8 mile.
Lone tree on Cedar Point	178	23	..	.....	1 7/8 miles.
East gable of barn	200	21	..	.....	4 miles.
North gable of Jackson Wharf house	214	26	..	.....	4 1/8 miles.
North gable of barn	276	32	..	.....	3 3/8 miles.
Cupola on farmhouse	299	16	..	.....	3 1/8 miles.
"Railway Water Tank"	321	45	00	.....	3 5/8 miles.
North flagstaff on Love Point Hotel	323	27	..	.....	3 3/8 miles.

NARROWS POINT.

General locality.—Northern shore of Chester River on southwest end of East Neck Island, about one-eighth mile north of Cockeys Island and three-eighths mile west-northwest of Cedar Point. (See Charts Nos. 29 and 30.)

Immediate locality.—Observed station is on a low marshy point about level with high water, about 7 yards from low water, and 325 yards west of a fishing shack. Cement monument marking reference station is 12.28 meters N 7° 58′ E of observed station.

Marks.—Observed station is center of 3-inch tile pipe filled with cement with top 4 inches below surface of ground. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References. –	°	′	″	
"Wickes Beach" (N 46° 58′ W)	0	00	00	1⅞ miles.
REFERENCE STATION	64	56	10	12. 28 meters.
Chimney of fishing shack	133	08	..	325 yards.
West gable of Queenstown elevator	153	44	..	3¼ miles.
Cupola on barn	164	05	..	2⅝ miles.
North gable of house	189	51	..	2½ miles.
North gable of barn	194	53	..	2½ miles.
Cupola on barn	216	26	..	2½ miles.
North gable of house	228	16	..	2¾ miles.
North gable of house on Jackson Creek	231	47	..	2⅞ miles.
East gable of Jackson Wharf house	233	52	..	2¾ miles.
North gable of barn	254	28	..	3 miles.
West chimney of house	285	16	..	3⅜ miles.
Chimney of house near Macum Creek	293	36	..	4⅛ miles.
East chimney of house	318	01	..	4¼ miles.
"Railway Water Tank"	334	11	40	5¼ miles.
South flagstaff on Love Point Hotel	335	26	..	5⅛ miles.
Flagstaff on Love Point Wharf	335	42	..	4¾ miles.
Right tangent of Love Point	341	30	..	5 miles.

MACUM.

General locality.—Southern shore of Chester River on Kent Island, about 4½ miles south of Love Point Light, 3 miles south-southeast of Love Point Landing, and one-half mile north-northwest of Macum Creek. (See Chart No. 29.)

Immediate locality.—Observed station is in cultivated field, about 7 feet above high water, 25 yards inshore, and 16 yards south of two cedar trees at edge of bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Love Point Light" (N 0° 19′ E)	0	00	00	4½ miles.
North cupola of barn on East Neck Island	50	41	..	3¾ miles.
Chimney of house on East Neck Island	52	13	..	3¾ miles.
Nail in blaze in persimmon tree (6 inches diameter)	57	02	50	22. 24 meters.
South corner of fishing shack on Cedar Point	72	08	..	4 miles.
West gable of large barn	89	48	..	5 miles.
Cupola on small house	97	00	..	5 miles.
West gable of house	102	15	..	4½ miles.
Cupola on barn	108	29	..	3 miles.
Gable of house near Jackson Creek	119	26	..	3⅜ miles.
East chimney of brick house	195	59	..	¼ mile.
East chimney of house	212	31	..	1 mile.
Cupola on house	221	52	..	1⅜ miles.
East chimney of house	225	18	..	⅝ mile.
North chimney of house	257	16	..	400 yards.
Lone cedar tree	266	08	..	500 yards.
Nail in blaze in cedar tree (4 inches diameter)	314	14	30	30. 98 meters.
"Railway Water Tank"	333	17	20	3⅛ miles.
East gable of wharf house on Kent Island Landing	339	28	..	1½ miles.
Flagstaff on wharf house on Love Point Landing	342	03	..	3⅜ miles.
Chimney of fishing shack	343	11	..	3¾ miles.

THIN.

General locality.—Southern shore of Chester River on western side of entrance to Kent Narrows, about three-fourths mile north of Narrows railway station. (See Chart No. 29.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 55 yards north of shore, and 55 yards west of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Muddy" (N 37° 55′ E)	0	00	00	⅞ mile.
Smoke pipe on shanty	75	13	..	1 mile.
Large low telegraph pole	99	27	..	¾ mile.
Smoke pipe on slant-roofed shanty	107	58	..	⅝ mile.
Near corner of fishing shanty	196	21	..	¼ mile.
Tangent of Long Point	356	41	..	¾ mile.

MUDDY.

General locality.—Southern shore of Chester River on Long Point, between Muddy Creek and Jackson Creek, about 2¼ miles southwest of Cedar Point and 3½ miles west of Queenstown. (See Charts Nos. 29 and 30.)

Immediate locality.—Observed station is on marsh land covered with myrtle bushes, about 2 feet above high water, 7 yards inshore, 25 yards southwest of extreme end of point, and 70 yards north of group of pine trees.

Marks.—Observed station is center point of triangle, on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Love Point Light" (N 28° 41′ W)	0	00	00	6 miles.
East chimney of house	34	54	..	2¾ miles.
Lone pine tree on Cedar Point	53	36	..	2¼ miles.
South gable of barn	79	35	..	4⅛ miles.
Cupola on barn	103	11	..	3 miles.
Cupola on barn	114	53	..	2¼ miles.
West gable of barn	134	33	..	1¾ miles.
Chimney of house	146	39	..	1¼ miles.
North gable of wharf house on Jackson Creek Landing	179	21	..	1 mile.
North gable of house	182	10	..	1¼ miles.
Chimney of small house	202	56	..	¾ mile.
Nail in blaze in pine tree (8 inches diameter)	221	12	50	63 yards.
Nail in blaze in pine tree (12 inches diameter)	243	25	..	67 yards.
South flagstaff of Love Point Hotel	339	43	30	5⅝ miles.
North gable of wharf house on Love Point Landing	341	46	..	5¼ miles.
Right tangent of Love Point	345	12	..	5⅝ miles.

BRIDGE.

General locality.—Southern side of Chester River on western shore of Kent Narrows, about one-eighth mile west of Narrows railway station. (See Chart No. 29.)

Immediate locality.—Observed station is on a telegraph pole at a point about 25 feet above high water, 4 yards south of near rail of railroad, 8 yards west of end of railroad bridge, and 7 yards from tie line of bridge.

Marks.—Observed station is a small staff nailed to telegraph pole.

References.—None necessary.

RAILROAD.

General locality.—Southern side of Chester River on eastern shore of Kent Narrows, about three-eighths mile east-southeast of Narrows railway station and one-eighth mile south of railroad. (See Chart No. 29.)

Immediate locality.—Observed station is on cultivated land about 8 feet above high water, 35 yards south by west of telephone line on north side of county road, 75 yards east of shanty, and 80 yards northeast of shore of small cove.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Marshy" (S 2° 38′ E)	0	00	00	¾ mile.
Cupola on barn	29	36	..	2¼ miles.
Chimney on ell of large house	38	04	..	2¾ miles.
Right tangent of shanty	96	32	..	75 yards.
South peak of Fisherman Inn	118	01	..	⅜ mile.
Nail in blaze in tree (8 inches diameter)	139	44	10	38.07 meters.
Nail in blaze in cherry tree (14 inches diameter)	163	20	40	27.00 meters.
Nail in blaze in telephone pole No. 2848	197	15	20	30.33 meters.
Smokepipe of shanty	209	50	..	100 yards.
Near peak of ell-shaped house	269	00	..	1¾ miles.
Near peak of house	292	19	..	1¾ miles.
Left peak of barn	345	37	..	1½ miles.
House in trees	354	10	..	1⅝ miles.

BLUEBEARD.

General locality.—Eastern shore of Chester River on point at entrance to a small creek, about five-eighths mile northeast of Blunt Creek and 1 mile southwest of entrance to Queenstown Creek. (See Chart No. 30.)

Immediate locality.—Observed station is on a low sand beach about 1 foot above high water, 5 yards inshore, 2 yards east of small persimmon tree, 55 yards northeast of a small stream, and 200 yards north-northeast of a pond.

Marks.—Observed station is center point of triangle on standard cement monument projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Love Point Light" (N 47° 53′ W)	0	00	00	7 miles.
South gable of house	12	03	..	2⅞ miles.
Right tangent of piles of Bogle Wharf	29	48	..	3⅜ miles.
Largest of four pine trees on Piney Point	48	58	..	4 miles.
East chimney of house	70	23	..	2⅜ miles.
Black beacon at entrance to Queenstown Creek	90	23	40	1 mile.
Nail in blaze in swamp-oak tree (4 inches diameter)	122	01	10	10.60 meters.
Nail in blaze in chestnut tree (18 inches diameter)	197	34	10	150 yards.
Nail in blaze in oak tree (6 inches diameter)	270	04	20	125 yards.
Cupola of barn	278	50	..	1½ miles.
East chimney of house	279	24	..	1½ miles.
North gable of Jackson Creek Landing house	290	11	..	2⅜ miles.
East gable of house	329	17	..	5¼ miles.
Gable of Love Point wharf house	344	08	..	6¾ miles.
Right tangent of Love Point	347	46	..	7 miles.

BLAKEFORD.

General locality.—Eastern shore of Chester River, about three-eighths mile north of Blakeford Point, at entrance to Queenstown Creek. (See Chart No. 30.)

Immediate locality.—Observed station is about 15 feet above high water, 8 yards inshore, 2 yards back from top of bank with uniform slope to beach, 25 yards north of gully, and 25 yards south of large sycamore tree at foot of slope.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Rain" (N 74° 56′ W)	0	00	00	1⅞ miles.
Right tangent of piles of Bogle Wharf	27	33	..	3 miles.
Nail in blaze in cedar tree (4 inches diameter)	83	12	10	13.31 meters.
Northwest corner of house in woods	155	39	..	300 yards.
West gable of small house	174	19	..	⅜ mile.
West gable of large barn	215	41	..	⅝ mile.
West gable of house	235	20	..	¾ mile.
Northeast corner of elevator at Queenstown	239	21	..	⅝ mile.
Nail in blaze in ash tree (15 inches diameter)	247	00	20	21.30 meters.
First black beacon at entrance to Queenstown Creek	204	40		½ mile.
Chimney of fishing shack on Cedar Point	352	26	..	2⅝ miles.

RAIN.

General locality.—Western shore of Chester River on Hail Point, about 1⅝ miles south-southeast of Bogle Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is about 5 feet above high water, 3 yards north of shore, and 20 yards northwest of extreme end of point. Cement monument marking reference station is 29.84 meters N 65° 20′ W of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle, on standard cement monument projecting 3 inches above surface of ground. Subsurface mark of reference station is center of 2-inch tile pipe with top 2 inches below base of monument.

References.—	°	′	″	
"Bluebeard" (S 21° 17′ E)	0	00	00	1⅞ miles.
Chimney of house	11	07	..	2¾ miles.
Cupola on barn	33	55	..	2⅞ miles.
Chimney of house on Jackson Creek	45	07	..	3⅜ miles.
Chimney of small house	48	32	..	3½ miles.
Chimney of fishing shack	101	34	..	⅞ mile.
Nail in blaze in pine tree (10 inches diameter)	119	46	30	15.45 meters.
REFERENCE STATION	135	56	20	29.84 meters.
Nail in blaze in pine tree (10 inches diameter)	147	05	50	18.09 meters.
South gable of house	173	28	..	1½ miles.
Right tangent of piles of Bogle Wharf	186	59	..	1⅝ miles.
Williams water tank	255	59	..	2 miles.
Black beacon at entrance to Queenstown Creek	318	01	..	1½ miles.
Cupola on barn	338	50	..	1¾ miles.

BREAK.

General locality.—Eastern shore of Chester River on Break Point about one-eighth mile north of north side of entrance to Tilghmans Creek. (See Chart No. 30.)

Immediate locality.—Observed station is in a cultivated field about 5 feet above high water, 13 yards inshore, 4 yards from edge of bank, 200 yards north of extreme end of point, and 300 yards west of a house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Blakeford" (S 23° 21′ E)	0	00	00	1½ miles.
North chimney of house at Queenstown	6	55	..	2½ miles.
Chimney of house	37	48	..	3⅜ miles.
Cupola on barn near Jackson Creek Landing	49	05	..	4⅛ miles.
Chimney of small house	55	05	..	4½ miles.
Chimney of small house	58	35	..	5½ miles.
Chimney of Greens fishing shack	84	38	..	1½ miles.
South chimney of house	103	42	..	2⅛ miles.
East gable of house	131	23	..	2⅛ miles.
Right tangent of piles of Bogle Wharf	133	30	..	1⅝ miles.
East chimney of house	151	35	..	2½ miles.
East chimney of house	176	46	..	3¾ miles.
Williams water tank	200	58	..	¼ mile.
Knob on door of fishing shack	349	58	..	¼ mile.

OVERTON.

General locality.—Western shore of Chester River on north side of entrance to Durdin Creek and about 100 yards south of Bogle Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is on marsh land about 1 foot above high water, 4 yards inshore, 100 yards south of Bogle Wharf, 250 yards southeast of Bogle store, and 300 yards west of Bogle Wharf house. Cement monument marking reference station is 11.26 meters S 73° 06′ W of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—

	°	′	″	
"Bay Bush Point" (N 3° 13′ W)	0	00	00	1¾ miles.
South gable of barn	4	12	..	2⅞ miles.
South gable of barn	17	21	..	3 miles.
West gable of barn	39	13	..	5 miles.
Left tangent of piles of Bogle Wharf	73	17	..	300 yards.
Chimney of house	119	25	..	2½ miles.
Lower west gable of Queenstown elevator	138	21	..	3½ miles.
North gable of house	140	27	..	3¾ miles.
Right tangent of woods on Hail Point	168	59	..	1⅜ miles.
REFERENCE STATION	256	18	40	11.26 meters.
Chimney of Bogle's store	289	17	..	250 yards.

FIR.

General locality.—Eastern shore of Chester River on Piney Point about 1⅝ miles north-northwest of Break Point and one-half mile west of Piney Cove. (See Chart No. 30.)

Immediate locality.—Observed station is on marsh land at the extreme end of Piney Point, about on level with high water, and about 4 yards east of shore. Cement monument marking reference station is 10.45 meters S 70° 43′ E of observed station.

Marks.—Observed station is center of 2-inch tile pipe with top flush with surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″	
"Break" (S 21° 04′ E)	0	00	00	1½ miles.
East chimney of house at Queenstown	2	36	..	4 miles.
Chimney of house	24	17	..	4½ miles.
Gable of barn near Jackson Creek Landing	34	49	..	5½ miles.
North gable of house	35	17	..	5½ miles.
Chimney of fishing shack	51	41	..	2¾ miles.
Right tangent of piles of Bogle Wharf	71	41	..	1¼ miles.
Chimney of house	77	08	..	1½ miles.
South chimney of house	135	34	..	1½ miles.
North chimney of house	170	54	..	2¼ miles.
West chimney of house	178	00	..	3 miles.
West gable of barn	199	30	..	3⅜ miles.
Left tangent of woods	226	37	..	¾ mile.
REFERENCE STATION	310	21	10	10.45 meters.
Williams water tank	339	41	..	1¼ miles.

BAY BUSH POINT.

General locality.—Western shore of Chester River on a point about one-fourth mile north of entrance to Fryingpan Cove and Churn Creek. (See Chart No. 30.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 15 yards inshore, and in front of several persimmon trees. Cement monument marking reference station is 10.16 meters N 80° 13′ W of observed station.

Marks.—Observed station is nail in 3-inch cement filled tile pipe with top 6 inches below surface of ground incased in cement cake bearing the legend "U. S. C. S.—1896." Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″	
"Fir" (S 57° 56′ E)	0	00	00	1½ miles.
Williams water tank	8	22	..	2½ miles.
Chimney of house at Queenstown	27	17	..	5⅛ miles.
West gable of barn	35	42	..	4⅞ miles.
Left tangent of woods on Hail Point	45	58	..	3¼ miles.
Left tangent of piles of Bogle Wharf	48	21	..	1¼ miles.
Chimney of Bogle store	58	00	..	1⅝ miles.
Nail in blaze in persimmon tree (6 inches diameter)	69	04	00	6.25 meters.
REFERENCE STATION	157	43	00	10.16 meters.
Nail in blaze in persimmon tree (8 inches diameter)	220	45	00	6.20 meters.
West chimney of house	244	04	..	1¼ miles.
East gable of barn	262	10	..	3 miles.
West gable of barn	297	51	..	4⅛ miles.
West gable of barn	316	19	..	3 miles.

GORDON.

General locality.—Eastern side of Chester River about 55 yards off shore, three-fourths mile southwest of entrance to Reeds Creek and seven-eighths mile north-northeast of Piney Point. (See Chart No. 30.)

Immediate locality.—Observed station is in about 3 feet of water at high tide, 55 yards off shore, and 300 yards southwest of end of woods and cultivated field. Cement monument marking reference station is 57.49 meters S 71° 15′ E of observed station.

Marks.—Observed station is nail in 2-inch by 4-inch pine stub driven with top to high water. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″	
"Fir" (S 25° 18′ W)	0	00	00	⅞ mile.
Left tangent of piles of Bogle Wharf	15	23	..	2⅛ miles.
East gable of barn	42	41	..	2 miles.
South chimney of house	103	30	..	2 miles.
West chimney of Harris house	118	39	..	2¾ miles.
South gable of Strong tenant house	129	39	..	3 miles.
South chimney of house	145	25	..	3 miles.
Spindle on Brown house	167	02	..	3½ miles.
South gable of corn crib	197	36	..	3 miles.
Nail in blaze in pine tree (10 inches diameter)	252	39	30	57.93 meters.
REFERENCE STATION	263	26	40	57.49 meters.
Nail in blaze in pine tree (18 inches diameter)	286	55	40	57.02 meters.

BIRD.

General locality.—Eastern shore of Chester River on Gordon Point at southwest side of entrance to Reeds Creek about 1½ miles southwest of Holton Point. (See Chart No. 30.)

Immediate locality.—Observed station is in a marsh meadow about 2 feet above high water, and 75 yards west of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 7 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Crow" (S 14° 23′ W)	0	00	00	¾ mile.
Lone pine tree (12 inches diameter)	69	59	..	300 yards.
North chimney of house	85	13	..	3¼ miles.
South gable of barn	115	56	..	2⅞ miles.
Northwest corner of house	230	16	..	⅝ mile.
North chimney of house	300	01	..	1 mile.
North gable of house	343	41	..	1½ miles.
Windmill	358	43	..	½ mile.
Chimney of house	359	09	..	⅜ mile.

CROW.

General locality.—Eastern side of Chester River on western shore of Reeds Creek about one-half mile south of extreme end of Gordon Point. (See Chart No. 30.)

Immediate locality.—Observed station is in yard of tenant house about 4 feet above high water, 12 yards west of shore, 5 yards south of a pear orchard, and 7 yards north of a house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Bird" (N 14° 23′ E)	0	00	00	⅜ mile.
South gable of house near Cliffs Landing	3	03	..	3¾ miles.
South gable of barn	36	18	..	1¼ miles.
Cupola of barn	73	23	..	1½ miles.
Northeast corner of Carnell tenant house	99	01	30	8.71 meters.
Northwest corner of Carnell tenant house	128	43	10	6.65 meters.
Northeast corner of barn	198	25	20	14.06 meters.
Northwest corner of barn	221	37	10	12.68 meters.

GROVE.

General locality.—Eastern side of Chester River on a point between Reeds Creek and Grove Creek about one-half mile southeast of Gordon Point. (See Chart No. 30.)

Immediate locality.—Observed station is in a meadow about 2 feet above high water, 26 yards south of shore, 8 yards west of three persimmon trees, and 35 yards west of a pond.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Reeds" (N 20° 32′ E)	0	00	00	½ mile.
East chimney of house	13	06	..	¾ mile.
South gable of barn	19	41	..	¾ mile.
Nail in blaze in persimmon tree (6 inches diameter)	53	05	50	10.98 meters.
Cupola on barn	75	58	..	⅝ mile.
Cupola on Wright barn	108	16	..	¾ mile.
North gable of barn	168	50	..	⅝ mile.
East gable of house	181	32	..	¾ mile.
South gable of house	230	54	..	½ mile.
Lone pine tree on Gordon Point	282	13	..	¼ mile.
Cupola on barn	316	04	..	4 miles.
South chimney of house	326	13	..	4 miles.
Nail in blaze in sassafras tree (5 inches diameter)	338	48	40	10.34 meters.

REEDS.

General locality.—Eastern shore of Chester River at northeast side of entrance to Reeds Creek and about five-eighths mile south of Robins Cove. (See Chart No. 30.)

Immediate locality.—Observed station is on marsh land about 2 feet above high water, 34 yards east of shore, 9 yards north of ditch draining swamp, and in center of triangle formed by three pine stubs driven flush with marsh to support theodolite.

Marks.—Observed station is center point of triangle on standard cement monument projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Bird" (S 62° 26′ W)	0	00	00	½ mile.
East chimney of Harris house	60	07	..	3⅛ miles.
Chimney of house	101	57	..	3¼ miles.
East chimney of Brown house	112	01	..	3 miles.
Chimney of cabin	186	55	..	300 yards
Cupola on barn	276	35	..	1¼ miles.
North gable of house	316	12	..	1⅜ miles.
Chimney of house	337	46	..	⅞ mile.

LITTLE GUM.

General locality.—Western shore of Chester River on Little Gum Point at southwest side of entrance to Grays Inn Creek. (See Chart No. 30.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 2 yards south of shore, and 12 yards southeast of a 4-foot ditch. Cement monument marking reference station is 40.97 meters N 33° 31′ W of observed station.

Marks.—Observed station is center of 2-inch tile pipe with top flush with surface of ground. Subsurface mark is 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″		
"Weeks" (N 29° 53′ W)	0	00	00	.....	⅜ mile.
East gable of old house on opposite shore	29	45	..	.....	1 mile.
South chimney of house	81	38	..	.....	1 mile.
South gable of house near Cliffs Landing	93	34	..	.....	3¼ miles.
North gable of barn	115	23	..	.....	3¼ miles.
North gable of barn	130	38	..	.....	3¼ miles.
South gable of barn	170	12	..	.....	2⅜ miles.
Left tangent of Gum Point	212	10	..	.....	⅝ mile.
North gable of barn	220	28	..	.....	¾ mile.
South chimney of Harris house	347	39	..	.....	⅜ mile.
REFERENCE STATION	356	22	00	.....	40.97 meters.

WEEKS.

General locality.—Western shore of Grays Inn Creek about three-eighths mile northwest of Chester River, and one-eighth mile southeast of Harris Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is in cultivated field about 7 feet above high water, 6 yards west of shore, 5 yards west of vertical bank 5 feet high, 50 yards northeast of low cedar tree at edge of peach orchard, 250 yards north of a wharf, and 200 yards north-northeast of a house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Inn" (N 89° 27′ E)	0	00	00	.....	⅝ mile.
Left tangent of gable of barn	43	07	..	.....	3¼ miles.
Chimney of Harris tenant house	93	48	..	.....	175 yards.
East gable of Harris house	107	38	..	.....	200 yards.
East gable of Harris barn	142	45	..	.....	250 yards.
Chimney of Harris tenant house	211	50	..	.....	300 yards.
Right tangent of piles of Harris Wharf	260	03	..	.....	300 yards.
East gable of Strong tenant house	288	59	..	.....	¾ mile.
Chimney of Strong distillery	324	46	..	.....	⅝ mile.
Lone sycamore tree on opposite shore	335	05	..	.....	½ mile.

SPRING.

General locality.—Western shore of Grays Inn Creek about one-half mile northwest of Chester River, on Spring Point, near Harris Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is in a cultivated field about 10 feet above high water, 8 yards southwest of shore, 10 yards west of a barn, 4 yards southwest of top of slope, and 100 yards southwest of an old wharf.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Island" (N 56° 37′ E)	0	00	00	.....	⅜ mile.
Left tangent of piles at northeast corner of old wharf	3	12	..	.....	100 yards.
Lone sycamore tree on opposite shore	27	58	..	.....	½ mile.
Nail in northwest corner of Harris barn	40	12	30	.....	9.10 meters.
Lone cedar tree near orchard	105	03	..	.....	350 yards.
Nail in post in southwest corner of Harris hay shed	143	58	..	.....	20.69 meters.
Stack of Leary sawmill	271	25	20	.....	2 miles.
Nail in blaze in walnut tree (3 inches diameter)	273	16	10	.....	10.73 meters.
Chimney of Strong tenant house	336	06	..	.....	¾ mile.

LUCY.

General locality.—Western shore of Grays Inn Creek abour three-fourths mile northwest of Chester River and one-fourth mile northwest of Harris Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is on wooded shore about 5 feet above high water, 5 yards west of shore, 2 yards west of top of vertical bank, and 3 feet north of a stump 4 inches in diameter. Cement monument marking reference station is 11.55 meters S 36° 59′ W of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″	
"Spring" (S 48° 33′ E)	0	00	00	¼ mile.
Nail in blaze in twin chestnut tree (18 inches diameter)	71	38	10	9.54 meters.
REFERENCE STATION	85	32	20	11.55 meters.
Nail in blaze in twin chestnut tree (10 inches diameter)	111	56	50	8.31 meters.
Stack of Leary sawmill	198	51	20	1⅝ miles.
East gable of barn	210	59	..	2 miles.
Left tangent of piles of Strong old wharf	213	34	..	¾ mile.
Southwest corner of Strong house	310	53	..	¾ mile.
Nail in blaze in gum tree (15 inches diameter)	338	07	10	4.73 meters.
Left tangent of piles of Harris old wharf	345	48	..	¼ mile.
Northeast corner of Harris barn	359	13	..	¼ mile.

GOOSE.

General locality.—Western shore of upper Grays Inn Creek about 1¼ miles northwest of Chester River, on point between Browns Cove and Goose Cove. (See Chart No. 30.)

Immediate locality.—Observed station is in a cultivated field at edge of peach orchard about 12 feet above high water, 8 yards southwest of shore, 6 yards southwest of top of vertical bank, and 1 yard north of row of peach trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Prussian" (N 18° 50′ W)	0	00	00	¼ mile.
East gable of house	0	49	..	1½ miles.
West chimney of house	31	32	..	1¼ miles.
Nail in blaze in locust tree (6 inches diameter)	36	09	00	5.32 meters.
West chimney of house	37	46	..	1 mile.
Left tangent of piles of old wharf	38	51	..	⅜ mile.
West chimney of house	87	21	..	½ mile.
North post of Harris hay shed	156	55	..	¾ mile.
Nail in blaze in peach tree (6 inches diameter)	248	59	10	10.42 meters.
East gable of barn	328	26	..	¾ mile.
Nail in blaze in locust tree (5 inches diameter)	348	08	20	14.47 meters.
Stack of Learys sawmill	353	22	50	1⅛ miles.

PRUSSIAN.

General locality.—Western shore of upper Grays Inn Creek about 1⅝ miles northwest of Chester River, opposite Strong's old wharf. (See Chart No. 30.)

Immediate locality.—Observed station is in a marsh meadow about 1 foot above high water, 9 yards southwest of shore, 25 yards west of extreme end of point, and in center of triangle formed by three pine stubs driven flush with marsh to support theodolite.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Gray" (N 13° 48′ W)	0	00	00	¼ mile.
South chimney of house	34	17	..	1¼ miles.
West chimney of house	45	05	..	½ mile.
West chimney of house	62	10	..	⅞ mile.
West chimney of small house near shore	70	17	..	1 mile.
Right tangent of piles of Strong old wharf	92	45	..	¼ mile.
Right tangent of tin roofed barn	149	10	..	5 miles.
Left tangent of piles of Harris old wharf	154	28	..	1 mile.
South gable of Harris hay shed	158	46	..	1 mile.
Chimney of house	287	45	..	¼ mile.
South chimney of house	294	52	..	¼ mile.

GRAY.

General locality.—Western shore of upper Grays Inn Creek about 1¾ miles northwest of Chester River, 250 yards west of Browns Point, and 1 mile south-southeast of Learys Mill Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is in a cultivated field about 3 feet above high water, 10 yards south of shore, 200 yards north of a group of five pine trees, and about on line with two cedar trees north of station.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Herring" (N 44° 12′ E)	0	00	00	¼ mile.
South gable of barn	9	55	..	⅜ mile.
Nail in blaze in cedar tree (3 inches diameter)	22	05	10	14.67 meters.
Chimney of Harris house	107	22	..	1⅜ miles.
West one of group of pine trees (12 inches diameter)	150	45	..	200 yards.
North chimney of house	178	58	..	¼ mile.
Stack of Learys sawmill	283	09	..	⅝ mile.
Wicks windmill	284	47	..	1½ miles.
Chimney of small house	289	55	..	¾ mile.
Nail in blaze in dead cedar tree (6 inches diameter)	307	16	00	4.43 meters.
East chimney of house	315	24	..	½ mile.
Lone dead pine tree	359	32	..	¼ mile.

HERRING.

General locality.—Eastern shore of upper Grays Inn Creek about 1⅞ miles northwest of Chester River, at north side of entrance to Herringtown Creek and about five-eighths mile east-southeast of Leary sawmill. (See Chart No. 30.)

Immediate locality.—Observed station is in a marsh meadow about 2 feet above high water, 20 yards north of shore, 5 yards west of a rail fence, 7 yards south of a lone dead pine tree, 75 yards south of a lone cedar tree, and in center of triangle formed by three pine stubs driven flush with marsh to support theodolite.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"No Road" (S 14° 43′ E)	0	00	00	⅜ mile.
North chimney of house	58	28	..	½ mile.
Nail in blaze in dead pine tree (30 inches diameter)	201	30	10	6.66 meters.
Chimney of house	215	40	..	⅜ mile.
Chimney of house	223	53	..	¼ mile.
East chimney of house	273	48	..	½ mile.
West chimney of house	300	02	..	300 yards.

NO ROAD.

General locality.—Eastern shore of upper Grays Inn Creek about 1¼ miles northwest of Chester River at south side of entrance to Herringtown Creek, near Strong old wharf. (See Chart No. 30.)

Immediate locality.—Observed station is on a clay and sand beach on a wooded shore about 1 foot above high water, 5 yards east of shore, and 17 yards east of end of piles of an old wharf.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Cut" (S 12° 04′ E)	0	00	00	¼ mile.
Left tangent of piles of Strong old wharf	87	10	..	100 yards.
South chimney of house	100	38	..	½ mile.
Stack of Leary sawmill	148	50	..	1 mile.
Wicks windmill	153	37	20	2½ miles.
East chimney of house	157	50	..	1¼ miles.
East gable of barn	168	23	..	¾ mile.
Nail in blaze in pine tree (18 inches diameter)	199	25	50	24.75 meters.
Nail in blaze in gum tree (18 inches diameter)	316	57	00	8.16 meters.

CUT.

General locality.—Eastern shore of upper Grays Inn Creek, on point about 1⅜ miles northwest of Chester River, and one-half mile south of Herrington Creek. (See Chart No. 30.)

Immediate locality.—Observed station is on marsh land below high water, about 13 yards north of shore, 60 yards northwest of three large cedar trees, 35 yards southwest of a wire fence at edge of woods, and in center of triangle formed by three pine stubs driven flush with marsh to support theodolite.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"No road" (N 12° 04′ W)	0	00	00	¼ mile.
Nail in blaze in pine tree (6 inches diameter)	67	32	10	22.31 meters.
Nail in blaze in cedar tree (12 inches diameter)	97	06	10	28.19 meters.
West gable of barn	145	52	..	4 miles.
Left tangent of piles of Harris old wharf	164	09	..	⅝ mile.
East chimney of Harris house	171	22	..	¾ mile.
East gable of barn	299	34	..	½ mile.
North chimney of house	304	41	..	¼ mile.
South gable of house	341	41	..	1½ miles.
Left tangent of piles of Strong old wharf	348	25	..	¼ mile.

FORE.

General locality.—Eastern shore of Grays Inn Creek, on point about 1 mile northwest of Chester River, and three-eighths mile north of Harris Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is on a marsh point, about 1 foot above high water, 3 yards northwest of shore, 11 yards north-northeast of extreme end of point, and in center of triangle formed by three pine stubs driven flush with marsh to support theodolite.

Marks.—Observed station is center point of triangle on standard cement monument projecting 12 inches above surface of marsh. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Lucy" (S 36° 11′ W)	0	00	00	⅜ mile.
North chimney of house	78	17	..	1¼ miles.
East gable of small house	80	43	..	1¼ miles.
Swamp oak tree (2 feet diameter)	131	28	..	100 yards.
Southwest corner of Strong tenant house	234	28	..	⅜ mile.
Lone sycamore tree (12 inches diameter)	274	58	..	¾ mile.
West gable of barn on Grove Creek	278	30	..	4¼ miles.
North gable of barn with two cupolas	287	49	..	3⅜ miles.
Chimney of Harris tenant house	319	50	..	⅝ mile.
Left tangent of piles of Harris old wharf	321	36	..	⅜ mile.
East gable of Harris barn	328	02	..	⅜ mile.

ISLAND.

General locality.—Eastern shore of Grays Inn Creek, about five-eighths mile northwest of Chester River, on Island Point opposite Harris Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is on marsh land, about 1 foot above high water, 3 yards northeast of shore, and 400 yards west of a house. Cement monument marking reference station is 9.01 meters N 43° 38′ E of observed station.

Marks.—Observed station is center of 2-inch tile pipe, with top flush with surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 6 inches above surface of ground.

References.—	°	′	″	
"Tray" (S 36° 22′ E)	0	00	00	⅜ mile.
Left tangent of woods on Hail Point	33	13	..	5¾ miles.
Lone poplar tree	65	03	..	⅝ mile.
East gable of Harris house	68	27	..	½ mile.
East gable of Harris barn	73	32	..	½ mile.
Right tangent of piles of old wharf	93	29	..	⅜ mile.
Chimney of small house	153	23	..	1¼ miles.
East chimney of house	171	07	..	¾ mile.
East gable of Strong tenant house	197	31	..	¼ mile.
REFERENCE STATION	259	59	50	9.01 meters.
Chimney of Strong old distillery	308	33	..	¼ mile.
Lone cedar tree near shore	354	59	..	300 yards.

TRAY.

General locality.—Eastern shore of Grays Inn Creek, about one-fourth mile northwest of Chester River, three-eighths mile southeast of Island Point, and one-half mile east of Harris Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is on a marsh point, about 1 foot above high water, 4 yards northeast of shore, 10 yards southwest of a small locust stump at foot of bank, and 12 yards southwest of foot of slope. Cement monument marking reference station is 8.86 meters N 53° 42′ E of observed station.

Marks.—Observed station is center of 2-inch tile pipe, with top flush with surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 7 inches above surface of ground.

References.—	°	′	″		
"Island" (N 36° 21′ W)	0	00	00	.....	⅜ mile.
REFERENCE STATION	90	02	50	.....	8.86 meters.
Nail in blaze in locust tree (4 inches diameter)	90	28	40	.....	10.60 meters.
Nail in blaze in persimmon tree (6 inches diameter)	129	25	10	.....	9.75 meters.
Right tangent of woods on Hail Point	217	29	..	.....	5 miles.
Northeast corner of barn	239	43	..	.....	1 mile.
East gable of Harris house	287	44	..	.....	½ mile.
Chimney of Harris tenant house	304	05	..	.....	⅝ mile.
North gable of house near shore	312	02	..	.....	⅝ mile.
North gable of barn	338	10	..	.....	1½ miles.
South chimney of house	354	21	..	.....	1¾ miles.

INN.

General locality.—Eastern shore of Grays Inn Creek, about one-eighth mile northwest of Chester River and one-half mile southeast of Island Point. (See Chart No. 30.)

Immediate locality.—Observed station is in a peach orchard, about 4 feet above high water, and 25 yards northeast of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 3 inches below base of monument.

References.—	°	′	″		
"Holton Point" (S 72° 50′ E)	0	00	00	.....	2⅝ miles.
Nail in blaze in sycamore tree (30 inches diameter)	13	24	30	.....	4.53 meters.
North cupola on barn	38	57	..	.....	2½ miles.
Left tangent of woods on Hail Point	74	54	..	.....	4½ miles.
East gable of Swatska barn	101	19	..	.....	1¼ miles.
East chimney of house	119	02	..	.....	½ mile.
East gable of Harris house	150	53	..	.....	⅝ mile.
East gable of small house	175	15	..	.....	⅝ mile.
Nail in blaze in peach tree (8 inches diameter)	252	41	50	.....	11.71 meters.
Southwest corner of Earle bathhouse	359	28	..	.....	3 miles.

HOLTON POINT.

General locality.—Eastern shore of Chester River on Holton Point, at south side of entrance to Corsica River. (See Chart No. 30.)

Immediate locality.—Observed station is on low sand beach, about on level with high water, and one-fourth mile west of small bathhouse. Cement monument marking reference station is 5.40 meters S 48° 06′ E of observed station.

Marks.—Observed station is nail in 3-inch cement-filled tile pipe, with top about 6 inches below surface of ground, encased in a cement cake bearing the legend "U. S. C. S. 1896." Reference station is center point of triangle on standard cement monument projecting 5 inches above surface of ground.

References.—	°	′	″	
"Bay Bush Point" (S 61° 15′ W)	0	00	00	2⅛ miles.
East chimney of house	19	49	..	3 miles.
Chimney of small house	27	23	..	3 miles.
East gable of barn	38	39	..	3⅛ miles.
East gable of small house	57	08	..	2¼ miles.
South gable of barn	67	37	..	2½ miles.
South gable of house	80	09	..	2⅞ miles.
East chimney of house	94	17	..	1¾ miles.
West chimney of house	130	52	..	2 miles.
South gable of corn crib	157	14	..	⅝ mile.
West gable of barn	184	04	..	1 mile.
REFERENCE STATION	247	38	20	5.40 meters.
Nail in blaze in persimmon tree (4 inches diameter)	321	38	00	28.35 meters.
North gable of barn	329	38	..	2⅛ miles.
North gable of barn	343	06	..	4⅜ miles.
East gable of barn	357	02	..	4¼ miles.

EARLE.

General locality.—Southern shore of Corsica River on Town Bar Point about one-half mile east of Chester River and 100 yards north of Earle Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is on marsh land about 1 foot above high water, 5 yards south of shore, 19 yards north of a pond, and 100 yards north of Earle Wharf.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Hydrographic" (S 64° 38′ E)	0	00	00	¼ mile.
Lone sycamore tree	10	43	..	½ mile.
East chimney of house	18	56	..	½ mile.
Southeast pile at end of Earle Wharf	48	59	..	100 yards.
Nail in blaze in locust tree (5 inches diameter)	63	18	00	12.92 meters.
Nail in blaze in locust tree (3 inches diameter)	87	58	50	11.07 meters.
Earle windmill	118	07	..	300 yards.
East gable of barn	165	21	..	3⅝ miles.
East gable of small house	179	26	..	2¾ miles.
Church steeple at Crosby	196	20	..	3¾ miles.
South gable of Brown house	209	09	..	2¼ miles.
West chimney of Sissel house	244	53	..	⅝ mile.
South gable of Emory barn	298	08	..	¾ mile.
West chimney of house	338	10	..	1⅞ miles.

HYDROGRAPHIC.

General locality.—Southern shore of Corsica River about 1⅛ miles east of Chester River and one-half mile east of Earle Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is near edge of cultivated field about 3 feet above high water, 20 yards south of shore, 4 yards south of edge of bank 3 feet high, and 400 yards north of lone sycamore tree.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Earle" (N 64° 37′ W)	0	00	00	.....	⅝ mile.
Church steeple at Crosby	14	03	..	.....	4¼ miles.
East gable of barn	19	13	..	.....	3½ miles.
South gable of Sissel barn	33	12	..	.....	¾ mile.
South gable of Emory barn	73	18	..	.....	⅝ mile.
Southwest corner of Emory Wharf house	75	44	..	.....	½ mile.
West gable of barn	114	51	..	.....	¾ mile.
West gable of barn	135	37	..	.....	1⅝ miles.
West chimney of house	148	56	..	.....	1¼ miles.
East chimney of house	231	23	..	.....	¾ mile.
Nail in blaze in apple tree (12 inches diameter)	327	14	30	.....	16.00 meters.
Southeast corner of Earle Wharf house	354	51	..	.....	½ mile.

RUTH.

General locality.—Southern shore of Corsica River about 1½ miles east of Chester River and one-eighth mile northwest of entrance to Tilghmans Cove. (See Chart No. 30.)

Immediate locality.—Observed station is in cultivated field about 15 feet above high water, 10 yards south of shore, 2 yards west of edge of slope, and 6 yards south of edge of slope.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Hydrographic" (N 82° 13′ W)	0	00	00	.....	⅜ mile.
East chimney of Earle tenant house	0	11	..	.....	1 mile.
South gable of Sissel barn	36	30	..	.....	1 mile.
Southeast corner of Emory Wharf house	54	13	..	.....	⅝ mile.
South gable of Emory barn	60	05	..	.....	¾ mile.
Chimney of Emory house	64	17	..	.....	¾ mile.
East post of front porch of house	109	34	..	.....	¾ mile.
Nail in blaze in oak tree (24 inches diameter)	119	49	10	.....	9.98 meters.
Nail in blaze in cedar tree (6 inches diameter)	223	53	20	.....	14.30 meters.
East gable of small barn	308	56	..	.....	⅜ mile.
Lone sycamore tree	319	36	..	.....	¾ mile.

MELFIELD.

General locality.—Southern shore of Corsica River about 1⅞ miles east of Chester River, 1 mile southeast of Emory Wharf, and one-eighth mile east of entrance to Tilghmans Cove. (See Chart No. 30.)

Immediate locality.—Observed station is in cultivated field about 18 feet above high water, 10 yards south of shore, 5 yards south of edge of bluff, and 10 yards west of a ravine.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Ruth" (N 71° 32′ W)	0	00	00	.....	⅜ mile.
East gable of barn	11	02	..	.....	5 miles.
Left tangent of Emory Wharf	29	50	..	.....	⅞ mile.
East chimney of Emory house	38	10	..	.....	1 mile.
Southwest corner of house	74	26	..	.....	¾ mile.
Cupola on Emory Wharf house	96	53	..	.....	1⅛ miles.
Nail in blaze in walnut tree (8 inches diameter)	119	34	10	.....	3.81 meters.
Nail in blaze in gum tree (7 inches diameter)	179	56	10	.....	16.18 meters.
West gable of barn	195	19	..	.....	⅜ mile.
Nail in blaze in locust tree (6 inches diameter)	336	32	10	.....	13.85 meters.
South chimney of Earle house	350	42	..	.....	1⅜ miles.

BATH.

General locality.—Southern shore of Corsica River on Wash Point about 2 miles east of Chester River, one-half mile west of Rocky Point, and one-fourth mile southeast of Ship Point. (See Chart No. 30.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 15 yards east of shore, 13 yards west of a pond, and surrounded by dense growth of bushes.

Marks.—Observed station is center point of triangle on standard cement monument projecting 8 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Melfield" (S 30° 54′ W)	0	00	00	.....	½ mile.
Left tangent of peak of barn	24	38	..	.....	1 mile.
Earle windmill	53	43	..	.....	1⅝ miles.
Left edge of Earle Wharf house	56	38	..	.....	1½ miles.
East chimney of house	86	14	..	.....	1 mile.
South chimney of house	120	55	..	.....	⅜ mile.
West chimney of house	217	12	..	.....	¾ mile.
North one of two cedar trees on hill	267	01	..	.....	¼ mile.
Nail in blaze in hackberry tree (12 inches diameter)	326	23	50	.....	3.06 meters.
Nail in blaze in pear tree (15 inches diameter)	345	11	50	.....	6.79 meters.

SHIP.

General locality.—Northern shore of Corsica River on Ship Point at west side of entrance to Emorys Creek, about 1⅞ miles east of Chester River, and five-eighths mile east of Emory Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is on a marsh point covered with bushes about 1 foot above high water, 6 yards west of shore, and 75 yards south of a cedar tree covered with grape vines.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References	°	′	″		
"Ruth" (S 39° 11′ W)	0	00	00	.....	⅝ mile.
North gable of barn	3	22	..	.....	¾ mile.
Earle windmill	40	59	..	.....	1½ miles.
Left edge of Earle Wharf house	43	35	..	.....	1¼ miles.
East gable of barn	128	34	..	.....	¼ mile.
Nail in blaze in cedar tree (7 inches diameter)	144	33	30	.....	12.52 meters.
West gable of barn	217	05	..	.....	1¼ miles.
West chimney of house	220	00	..	.....	1¼ miles.
North chimney of house	229	59	..	.....	1¼ miles.
West chimney of house	251	20	..	.....	¾ mile.

ENGINEER.

General locality.—Northern shore of Corsica River about 1 mile east of Chester River, five-eighths mile northeast of Earle Wharf, and 50 yards west of Emory Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is on marshland about 1 foot above high water, 12 yards north of shore, 50 yards west of Emory Wharf, and 50 yards southeast of a pond.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Ruth" (S 29° 36′ E)	0	00	00	....	⅝ mile.
East chimney of house	29	31	..	.....	⅞ mile.
Nail in blaze in pear tree (6 inches diameter)	70	38	40	.....	99.95 feet.
Earle windmill	90	13	..	.....	⅞ mile.
Lone cedar tree	165	42	..	.....	125 yards.
South gable of Emory barn	219	59	..	.....	300 yards.
East chimney of Emory house	257	47	..	.....	250 yards.
West chimney of house	317	59	..	.....	1⅜ miles.
Northeast corner of Emory Wharf house	321	35	..	.....	156.94 feet.

SWEPSON.

General locality.—Northern shore of Corsica River opposite Town Bar Point about one-half mile east of Chester River, three-eighths mile north of Earle Wharf, and three-eighths mile west of Emory Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is on marshland about 1 foot above high water, 12 yards north of shore, 10 yards south of lone cedar tree, and 12 yards east of small ditch draining swamp.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Hydrographic" (S 32° 06′ E)	0	00	00	.....	⅝ mile.
East chimney of house	6	32	..	.....	¾ mile.
Chimney of house	44	28	..	.....	⅝ mile.
Earle windmill	71	46	..	.....	½ mile.
Nail in blaze in cedar tree (15 inches diameter)	230	15	30	.....	9.50 meters.
South gable of Emory barn	282	58	..	.....	½ mile.
West gable of barn	332	36	..	.....	1¾ miles.
North chimney of small house	355	19	..	.....	1½ miles.
Chimney of small house	357	28	..	.....	2½ miles.

CORSICA.

General locality.—Eastern shore of Chester River at north side of entrance to Corsica River about three-eighths mile south of Lower Spaniard Point. (See Chart No. 30.)

Immediate locality.—Observed station is in a cultivated field about 7 feet above high water, 16 yards east of shore, 11 yards east of edge of bank, and 5 yards south of young peach orchard.

Marks.—Observed station is center point of triangle on standard cement monument projecting 7 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Swepson" (S 54° 31′ E)	0	00	00	½ mile.
North chimney of house	19	17	..	1¼ miles.
Earle windmill	52	39	..	¾ mile.
Northwest corner of Earle bathhouse	54	01	..	¾ mile.
Left tangent of woods on Gordon Point	93	50	..	2¾ miles.
Chimney of small house	145	49	..	3⅜ miles.
South gable of barn	187	43	..	2⅓ miles.
West gable of Sissel corn crib	318	25	..	½ mile.
Locust tree (24 inches diameter)	359	07	..	150 yards.

DEEP COVE.

General locality.—Western shore of Chester River on point at west side of entrance to Langford Creek and south side of entrance to Deep Cove. (See Chart No. 30.)

Immediate locality.—Observed station is on marshland about 1 foot above high water, 10 yards inshore, 50 yards east of a dead tree 2 feet in diameter, 80 yards southeast of a tall poplar tree, and 300 yards east of a house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Gordon" (S 6° 44′ E)	0	00	00	2¾ miles.
East pine tree of group on Piney Point	5	25	..	3¼ miles.
Spindle on gable of barn	47	08	..	1⅞ miles.
Lone poplar tree	59	20	..	¼ mile.
Northeast corner of Ashley house	87	57	..	300 yards.
Southeast corner of fishing shack	124	34	..	200 yards.
Lone pine tree	136	01	..	¼ mile.
South gable of house	193	50	..	1⅛ miles.
West chimney of house	200	47	..	1⅛ miles.
West gable of barn	243	30	..	1 mile.
North chimney of house at Cliffs Landing	256	16	..	2 miles.
North gable of barn	288	41	..	2⅜ miles.
Southwest corner of Earle bathhouse	307	09	..	2⅝ miles.
North gable of barn	355	07	..	2⅝ miles.

SNUB.

General locality.—Western shore of Langford Creek on prominent point about three-eighths mile north of Chester River between Deep Cove and Long Cove. (See Chart No. 30.)

Immediate locality.—Observed station is on a low sand point about 2 feet above high water, 8 yards west of shore, and 75 yards north of cedar trees on shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Deep Cove" (S 5° 21′ W)	0	00	00	⅜ mile.
Lone pine tree	11	37	..	75 yards.
Lone poplar tree (18 inches diameter)	140	34	..	300 yards.
East chimney of house	160	56	..	1 mile.
West chimney of house	174	57	..	1 mile.
West chimney of house	193	06	..	¾ mile.
South chimney of house	212	17	..	2¾ miles.
West chimney of house	228	09	..	1⅜ miles.
South chimney of Brown house	249	07	..	1⅛ miles.
West gable of house	267	36	..	4 miles.
Left edge of Earle bathhouse	305	40	..	2⅝ miles.
West gable of barn on Reeds Creek	334	41	..	4 miles.

LAWYER.

General locality.—Western shore of Langford Creek on Long Point about 1 mile north of Chester River between Long Cove and Lawyers Cove. (See Chart No. 30.)

Immediate locality.—Observed station is on a low sand point about 1 foot above high water, 8 yards west of extreme east end of point, and 30 yards east of group of pine trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Peach" (S 41° 41′ E)	0	00	00	¾ mile.
East gable of barn	20	38	..	3¾ miles.
Southeast chimney of Strong house	84	03	..	½ mile.
Nail in blaze in twin pine tree (18 inches diameter)	121	07	20	26.76 meters.
Nail in blaze in pine tree (12 inches diameter)	134	41	50	26.07 meters.
South chimney of house	141	33	..	⅜ mile.
East chimney of house	170	21	..	¾ mile.
East chimney of house	194	05	..	¼ mile.
West chimney of house	242	39	..	¼ mile.
West chimney of Brown house	323	45	..	⅞ mile.

DRUM.

General locality.—Western shore of Langford Creek on Drum Point about 1¼ miles north of Chester River, between Lawyers Cove and Davis Creek. (See Chart No. 30.)

Immediate locality.—Observed station is in a marsh meadow, about 2 feet above high water, 13 yards north of shore, 15 yards south of shore, and 13 yards west of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Major" (S 54° 41′ E)	0	00	00	⅜ mile.
West gable of Brown house	9	59	..	⅝ mile.
Left tangent of woods on Hail Point	65	19	..	6 miles.
East chimney of Ashley house	88	26	..	1¼ miles.
East gable of house	171	22	..	½ mile.
Chimney of small house	215	51	..	⅜ mile.
South gable of barn	249	18	..	1⅝ miles.
West chimney of house	271	20	..	1⅝ miles.
West chimney of house	305	02	..	¾ mile.

DAVIS.

General locality.—Western shore of Langford Creek on point about 1⅞ miles north of Chester River, one-eighth mile northeast of entrance to Davis Creek, five-eighths mile north of Drum Point, and nearly opposite Orchard Point. (See Chart No. 30.)

Immediate locality.—Observed station is in a cultivated field about 10 feet above high water, 20 yards northwest of shore, and 10 yards northwest of top of bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Drum" (S 1° 07′ E)	0	00	00	.....	⅝ mile.
Nail in blaze in oak tree (4 inches diameter)	21	47	30	.....	16.50 meters.
Chimney of small house	207	06	..	.....	1 mile.
South gable of barn	234	11	..	.....	1¼ miles.
West chimney of house	267	34	..	.....	1⅛ miles.
West chimney of house	294	35	..	.....	1 mile.
Nail in blaze in oak tree (15 inches diameter)	324	22	10	.....	10.46 meters.
Chimney of house	337	30	..	.....	1⅛ miles.
North gable of house on Reeds Creek	357	28	..	.....	6 miles.

ISLE.

General locality.—Western shore of West Fork of Langford Creek, on Island Point, about one-fourth mile north of main body of creek and three-eighths mile northwest of Cacaway Island. (See Chart No. 30.)

Immediate locality.—Observed station is on a low sand point about 1 foot above high water, 5 yards south of shore, 8 yards north of shore, 50 yards west of extreme end of point, and 20 yards east of foot of wooded bluff 15 feet high. Cement monument marking reference station is 5.55 meters S 79° 32′ W of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—

	°	′	″		
"Eagle" (N 43° 25′ W)	0	00	00	.....	½ mile.
South gable of Leary corncrib	1	41	..	.....	1¾ miles.
West chimney of house	47	18	..	.....	1¼ miles.
Chimney of small house	75	51	..	.....	½ mile.
North chimney of house	142	13	..	.....	1¼ miles.
North gable of barn	153	58	..	.....	1 mile.
Lone cedar tree on Drum Point	234	51	..	.....	1 mile.
REFERENCE STATION	302	57	00	.....	5.55 meters.
South chimney of house	355	56	..	.....	1¼ miles.

EAGLE.

General locality.—Western shore of West Fork of Langford Creek, on Eagle Point at south side of entrance to Graveyard Cove, about three-fourths mile northwest of main body of Langford Creek. (See Chart No. 30.)

Immediate locality.—Observed station is on prominent bluff about 20 feet above high water, 26 yards west of extreme end of point, 11 yards south of top of bank, 8 yards north of top of bank, and 2 yards north of small cedar tree.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Hornor" (N 84° 09′ E)	0	00	00	.....	¼ mile.
Left tangent of Cacaway Island	42	07	..	.....	¾ mile.
Nail in blaze in stump near top of bank	85	52	40	.....	9.96 meters.
North chimney of house	131	49	..	.....	1 mile.
Lone oak tree (12 inches diameter)	153	29	..	.....	¼ mile.
Nail in blaze in stump (15 inches diameter)	202	06	10	.....	4.54 meters.
East chimney of De Ford house	216	44	..	.....	⅜ mile.
South chimney of house	224	39	..	.....	¾ mile.
Lone cedar tree	268	44	..	.....	⅝ mile.
Chimney of small house	280	49	..	.....	1½ miles.

FORD.

General locality.—Western shore of West Fork of Langford Creek about 1 mile northwest of main body of Langford Creek, three-eighths mile northwest of Eagle Point, and one-half mile south of Whale Point. (See Chart No. 30.)

Immediate locality.—Observed station is in garden about 20 feet above high water, 9 yards southwest of shore, 7 yards southwest of top of bank, and 80 yards southeast of a house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Kinsley" (N 21° 24′ W)	0	00	00	.....	¼ mile.
Nail in blaze in cherry tree (12 inches diameter)	18	56	20	.....	10.76 meters.
Lone cedar tree	50	01	..	.....	¼ mile.
South gable of old barn	71	15	..	.....	1 mile.
Nail in blaze in cedar tree (8 inches diameter)	136	05	20	.....	6.23 meters.
Twin oak tree on Eagle Point	148	51	..	.....	¼ mile.
East gable of De Ford house	311	47	..	.....	80 yards.
Walnut tree (12 inches diameter)	324	13	..	.....	50 yards.

KINSLEY.

General locality.—Western shore of West Fork of Langford Creek on Pastor Point about 1¼ miles northwest of main body of Langford Creek and one-fourth mile south of Whale Point. (See Chart No. 30.)

Immediate locality.—Observed station is about 2 feet above high water, 6 yards west of shore, 200 yards north of a wharf, and at foot of slope rising to an elevation of 10 feet.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Whale" (N 3° 10′ E)	0	00	00	.....	¼ mile.
Chimney of house	22	01	..	.....	1¼ miles.
Lone cedar tree	63	18	..	.....	⅜ mile.
South gable of barn	71	35	..	.....	⅝ mile.
West chimney of De Ford house	168	05	..	.....	¼ mile.
End of Kinsley wharf	178	58	..	.....	200 yards.
Nail in blaze in wild-cherry tree (12 inches diameter)	195	51	10	.....	4.01 meters.
Nail in blaze in twin stump	242	42	30	.....	2.57 meters.
North chimney of Leary house	329	45	..	.....	⅛ mile.

WHALE.

General locality.—Western shore of West Fork of Langford Creek, on Whale Point, at south side of entrance to Bungay Creek, about 1½ miles northwest of main body of Langford Creek, and three-eighths mile southwest of Vickers Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is on a marsh point about 2 feet above high water, 6 yards southwest of shore, and 300 yards northeast of a house. Cement monument marking reference station is 8.75 meters S 35° 27′ W of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—

	°	′	″		
"Nat" (S 76° 46′ E)	0	00	00	.....	⅛ mile.
Left tangent of Eagle Point	46	25	..	.....	¾ mile.
West chimney of De Ford house	73	51	..	.....	⅜ mile.
Nail in blaze in cedar tree (6 inches diameter)	82	53	50	.....	7.20 meters.
REFERENCE STATION	112	12	10	.....	8.75 meters.
Nail in blaze in cedar tree (12 inches diameter)	130	49	20	.....	13.55 meters.
North chimney of house	307	45	..	.....	¾ mile.
Left tangent of piles of Vickers Wharf	307	54	..	.....	¼ mile.
West chimney of house	354	11	..	.....	¾ mile.

BUNGAY.

General locality.—Western shore of West Fork of Langford Creek, on point at north side of entrance to Bungay Creek, about 1⅝ miles northwest of main body of Langford Creek and one-fourth mile west of Vickers Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is on a low sand point at north side of entrance to Bungay Creek, about 1 foot above high water, and 16 yards west of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Nat" (S 28° 21′ E)	0	00	00	.....	¼ mile.
Left edge of bank on Eagle Point	7	25	..	.....	⅞ mile.
West gable of barn	38	01	..	.....	½ mile.
North chimney of Kinsley house	45	08	..	.....	⅜ mile.
North chimney of Leary house	58	02	..	.....	¼ mile.
North gable of house	60	26	..	.....	⅛ mile.
South gable of house	205	43	..	.....	1¾ miles.
South gable of barn	238	01	..	.....	¾ mile.
North chimney of house	268	18	..	.....	⅛ mile.
West chimney of house	292	48	..	.....	⅜ mile.
Lone cedar tree (12 inches diameter)	344	58	..	.....	¼ mile.

LOCUST.

General locality.—Eastern shore of West Fork of Langford Creek, near Vickers Wharf, about 1⅝ miles northwest of main body of Langford Creek. (See Chart No. 30.)

Immediate locality.—Observed station is in a cultivated field about 2 feet above high water, 5 yards southeast of shore, and immediately back of loading platform on Vickers Wharf.

Marks.—Observed station is nail in root of a leaning locust tree 12 inches in diameter.

References.—

Drift pin in top of pile head at southeast end of Vickers Wharf ..... 5.78 meters.
Drift pin in top of pile head at northwest end of Vickers Wharf ..... 7.78 meters.

NAT.

General locality.—Eastern shore of West Fork of Langford Creek, opposite Whale Point, about 1⅜ miles northwest of main body of Langford Creek and one-fourth mile south of Vickers Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is on a marsh point about 2 feet above high water, 7 yards south of shore, 8 yards north of shore, 25 yards east of extreme end of point, and in center of triangle formed by three pine stubs driven flush with marsh to support theodolite.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Mill" (S 29° 19′ E)	0	00	00	⅛ mile.
Left tangent of Eagle Point	10	49	..	⅛ mile.
West gable of house	31	29	..	1¼ miles.
Left edge of De Ford kitchen	48	38	..	⅜ mile.
North chimney of house	71	35	..	⅜ mile.
North gable of barn	75	40	..	⅜ mile.
East gable of barn	134	57	..	¼ mile.
Chimney of house	227	58	..	¾ mile.
Persimmon tree (3 inches diameter)	266	01	..	70 yards.
South gable of barn	302	15	..	⅜ mile.

MILL.

General locality.—Eastern shore of West Fork of Langford Creek, on point at west side of a small cove about 1¼ miles northwest of main body of Langford Creek and three-eighths mile south of Vickers Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is on a marsh point about 2 feet above high water, 6 yards west of shore, 7 yards east of shore, 15 yards northwest of extreme end of point, and in center of triangle formed by three pine stubs driven flush with marsh to support theodolite. Cement monument marking reference station is 9.48 meters N 2° 57′ E of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″	
"Ford" (S 32° 51′ W)	0	00	00	⅛ mile.
East chimney of De Ford house	9	46	..	⅜ mile.
South chimney of house	38	14	..	⅜ mile.
North chimney of house	72	11	..	⅜ mile.
South chimney of house	142	59	..	2 miles.
REFERENCE STATION	150	06	20	9.48 meters.
Lone cedar tree	163	32	..	300 yards.
South gable of barn	213	24	..	½ mile.
Chimney of house	343	48	..	¾ mile.

WEST.

General locality.—Eastern shore of West Fork of Langford Creek, on Cedar Point, at west side of entrance to Long Cove, about seven-eighths mile north of main body of Langford Creek. (See Chart No. 30.)

Immediate locality.—Observed station is on marsh land about 1 foot above high water, 5 yards west of shore, 8 yards east of shore, and 25 yards northwest of extreme end of point. Cement monument marking reference station is 21.85 meters N 27° 40′ E of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″		
"Mill" (N 53° 43′ W)	0	00	00	.....	⅜ mile.
Nail in blaze in cherry tree (6 inches diameter)	77	22	30	.....	15.45 meters.
REFERENCE STATION	81	22	30	.....	21.85 meters.
Nail in blaze in oak tree (12 inches diameter)	93	38	40	.....	26.24 meters.
Twin oak tree on Eagle Point	267	17	..	.....	¼ mile.
Chimney of house	282	45	..	.....	¾ mile.
East chimney of De Ford house	315	37	..	.....	½ mile.
South chimney of house	330	57	..	.....	¾ mile.
North chimney of house	348	50	..	.....	1¼ miles.

HORNOR.

General locality.—Eastern shore of West Fork of Langford Creek on point between Long Cove and Hornors Cove about three-fourths mile north of main body of Langford Creek. (See Chart No. 30.)

Immediate locality.—Observed station is in a marsh meadow about 1 foot above high water, 15 yards northeast of shore, and 30 yards south of fringe of woods parallel with shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Eagle" (S 84° 10′ W)	0	00	00	.....	¼ mile.
West chimney of De Ford House	20	40	..	.....	⅝ mile.
South chimney of house	29	03	..	.....	1¼ miles.
North chimney of house	40	41	..	.....	1½ miles.
Left edge of small house	242	40	..	.....	1 mile.
Right tangent of Cacaway Island	261	55	..	.....	¾ mile.
Chimney of house	353	56	..	.....	⅜ mile.

KING.

General locality.—On point between East Fork and West Fork of Langford Creek about 150 yards north of Cacaway Island. (See Chart No. 30.)

Immediate locality.—Observed station is on a point about 14 feet high at edge of cultivated field, 3 yards northwest of edge of bank, 3 yards east of edge of bank at gully, and 8 yards east-northeast of point of bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Ash" (N 44° 53′ E)	0	00	00	.....	⅛ mile.
Left peak of large house	55	52	..	.....	1¾ miles.
Nail in blaze in oak tree (8 inches diameter)	70	26	..	.....	6.25 meters.
Left chimney of house	113	18	..	.....	3 miles.
Nail in blaze in tree (4 inches diameter)	163	48	10	.....	8.27 meters.
Right peak of barn	174	35	..	.....	2 miles.
Nail in blaze in tree (4 inches diameter)	246	34	20	.....	7.49 meters.
Left chimney on mansion house	259	16	..	.....	.....
Chimney of house among trees	295	12	..	.....	.....

ASH.

General locality.—Western shore of East Fork of Langford Creek about one-half mile north of main body of Langford Creek and one-eighth mile northeast of north end of Cacaway Island. (See Chart No. 30.)

Immediate locality.—Observed station is in cultivated land about 10 feet above high water, 35 yards northwest of shore, 14 yards northwest of edge of low bank, 20 yards northwest of line of trees along shore, and 36 yards south-southwest of point of trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Noth" (S 81° 40′ E)	0	00	00	⅜ mile.
Left peak of long barn	9	25	..	1½ miles.
Nail in blaze in oak tree (14 inches diameter)	13	43	10	19.55 meters.
Nail in blaze in oak tree (14 inches diameter)	69	49	10	27.87 meters.
Left peak of house	128	38	..	1 mile.
Chimney of small house	183	37	..	1¾ miles.
Near peak of large house	196	17	..	1½ miles.
Left chimney of large mansion	200	11	..	1¾ miles.
Nail in blaze in oak tree (5 inches diameter)	324	03	50	21.37 meters.

NOTH.

General locality.—Western shore of East Fork of Langford Creek on point opposite Kings Creek about three-fourths mile northeast of main body of Langford Creek and one-half mile east of north end of Cacaway Island. (See Chart No. 30.)

Immediate locality.—Observed station is in cultivated land about 3 feet above high water, 6 yards west of shore, 23 yards northeast of shore, and 40 yards north of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Leary" (N 36° 47′ E)	0	00	00	¼ mile.
Southwest peak of large barn	24	50	..	½ mile.
Nail in blaze of oak tree (8 inches diameter)	53	29	40	5.95 meters.
Left chimney of Stoop store	74	51		¾ mile.
Left peak of Stoop long barn	77	18	..	¾ mile.
Near peak of barn	125	11	..	⅜ mile.
Nail in blaze in locust tree (3 inches diameter)	141	54	10	4.91 meters.
Chimney of house	174	18	..	½ mile.
Chimney of house	200	00	40	3 miles.
Nail in blaze in locust tree (5 inches diameter)	354	35	10	8.11 meters.

LEARY.

General locality.—Western shore of East Fork of Langford Creek about 1 mile northeast of main body of Langford Creek and three-eighths mile north of Haw Bush Point. (See Chart No. 30.)

Immediate locality.—Observed station is on a marsh point near Leary's old wharf, about 1 foot above high water, 6 yards west of shore, 10 yards northeast of shore, and 10 yards north of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Nest" (N 33° 43′ E)	0	00	00	⅜ mile.
North chimney of house	38	43	..	⅝ mile.
House among trees	150	10	..	⅝ mile.
Chimney of house	179	15	..	⅞ mile.
Chimney of house	194	37	..	2⅝ miles.
Nail in blaze in cedar tree (14 inches diameter)	255	59	40	17.45 meters.
Nail in blaze in locust tree (6 inches diameter)	280	30	40	15.75 meters.
Nail in blaze in locust tree (7 inches diameter)	298	51	30	15.80 meters.

NEST.

General locality.—Western shore of East Fork of Langford Creek on point about 1⅜ miles northeast of main body of Langford Creek and five-eighths mile southwest of entrance to Philips Creek. (See Chart No. 30.)

Immediate locality.—Observed station is in a pasture about 10 feet above high water, 11 yards north of edge of bank, 12 yards west of edge of bank, 16 yards west-northwest of point of bank, and 125 yards south of clump of trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Woll" (N 18° 22′ E)	0	00	00	¼ mile.
Large chimney of house	4	41	..	3 miles.
Near large chimney of house	62	00	..	1 mile.
Nail in blaze in hickory stump (4 inches diameter)	115	06	10	10.07 meters.
Chimney of small house	166	21	..	2 miles.
Chimney of rambling house	194	49	..	1⅝ miles.
Nail in blaze in locust tree (4 inches diameter)	212	15	..	12.59 meters.
Large tree in small clump	275	24	..	.....
Nail in blaze in oak tree (20 inches diameter)	334	44	00	38.40 meters.
East peak of shed	346	12	..	.....

WOLL.

General locality.—Western shore of East Fork of Langford Creek about 1 mile north of Haw Bush Point and three-eighths mile southwest of entrance to Philips Creek. (See Chart No. 30.)

Immediate locality.—Observed station is in corner of cultivated field about 10 feet above high water, 10 yards southwest of edge of bank, 17 yards north of edge of bank, 19 yards northwest of extreme point of bank, and 125 yards east-northeast of a house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Harp" (N 5° 32′ W)	0	00	00	¼ mile.
South peak of barn	8	52	..	¾ mile.
Large chimney of house	29	32	..	2⅛ miles.
Chimney on ell of large house	37	37	..	1⅝ miles.
Chimney of shanty	56	06	..	1 mile.
Right corner of west chimney of large brick house	107	59	..	¾ mile.
East peak of large barn	151	18	..	½ mile.
Right corner of north chimney of brick house	155	52	..	⅜ mile.
Left tangent of chimney of house	247	13	..	125 yards.

HARP.

General locality.—Western shore of East Fork of Langford Creek on point opposite entrance to Philips Creek. (See Chart No. 30.)

Immediate locality.—Observed station is at southeast end of row of bushes on a marsh point about 1 foot above high water, 20 yards southwest of edge of marsh, 20 yards west of edge of marsh, 24 yards northwest of edge of marsh, and 40 yards from a tree-fringed bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Clay" (N 46° 44′ W)	0	00	00	½ mile.
East chimney of brick house	23	45	..	¾ mile.
South peak of large barn	52	31	..	1 mile.
Chimney of house	76	58	..	2 miles.
Large square chimney on west end of house	167	17	..	¾ mile.
Northeast peak of long barn	201	39	..	¾ mile.
Chimney of small house	204	11	..	¾ mile.

CLAY.

General locality.—Western shore of East Fork of Langford Creek about one-eighth mile south of Lovely Cove and five-eighths mile northwest of entrance to Philips Creek. (See Chart No. 30.)

Immediate locality.—Observed station is in woods about 20 feet above high water and 6 yards southwest of edge of bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Lovely" (N 7° 19′ E)	0	00	00	⅜ mile.
Left tangent of chimney of brick house	31	46	..	½ mile.
Nail in blaze in oak tree (12 inches diameter)	50	30	..	4.61 meters.
Nail in blaze in oak tree (12 inches diameter)	109	36	30	4.13 meters.
West chimney of large brick house	118	24	..	1¼ miles.
Nail in blaze in chestnut tree (10 inches diameter)	141	50	50	6.23 meters.
Nail in blaze in chestnut tree (10 inches diameter)	172	22	50	6.24 meters.
Nail in blaze in chestnut tree (13 inches diameter)	220	44	20	8.15 meters.
Nail in blaze in oak tree (9 inches diameter)	255	37	50	5.06 meters.

LOVELY.

General locality.—Western shore of East Fork of Langford Creek on north side of entrance to Lovely Cove and three-fourths mile northwest of entrance to Philips Creek. (See Chart No. 30.)

Immediate locality.—Observed station is at edge of cultivated field about 5 feet above high water, 12 yards north of shore, 1 yard north of top of slight slope, and 70 yards east of a cut in shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Gut" (S 48° 15′ E)	0	00	00	⅜ mile.
Chimney of large brick house	5	32	..	1⅜ miles.
East peak of long barn	22	39	..	2 miles.
Nail in blaze in gum tree (3 inches diameter)	84	51	40	5.24 meters.
Nail in blaze in locust tree (3 inches diameter)	132	22	30	13.99 meters.
Chimney on east end of brick house	219	10	..	¼ mile.
Near chimney of brick house	291	03	..	½ mile.
Nail in blaze in locust tree (3 inches diameter)	326	51	40	2.28 meters.
Nail in blaze in locust tree (4 inches diameter)	327	37	20	4.55 meters.

GUT.

General locality.—Eastern shore of East Fork of Langford Creek on point at north side of entrance to a small cove about one-fourth mile east of entrance to Lovely Cove and one-half mile northwest of entrance to Philips Creek. (See Chart No. 30.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 15 yards northeast of edge of marsh, 16 yards north of edge of marsh, 21 yards east of edge of marsh, and 65 yards north-northwest of extreme point of marsh.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Philip" (S 38° 26′ E)	0	00	00	¼ mile.
Northeast peak of long barn	19	32	..	1½ miles.
Chimney on southwest end of small house	140	06	..	1 mile.
East end of small shed	185	04	..	½ mile.
Near corner of brick house	234	02	..	¼ mile.
Southeast peak of barn	238	07	..	1¼ miles.
Chimney on ell of house	268	40	..	½ mile.
Chimney on west end of house	357	47	..	1⅛ miles.

PHILIP.

General locality.—Eastern shore of East Fork of Langford Creek at north side of entrance to Philips Creek and about five-eighths mile southeast of entrance to Lovely Cove. (See Chart No. 30.)

Immediate locality.—Observed station is on marsh land about 1 foot above high water, 10 yards east of edge of marsh, 15 yards northeast of edge of marsh, 17 yards southeast of edge of marsh, and southwest of a small group of cedar trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Ide" (S 33° 46′ E)	0	00	00	.....	¼ mile.
Northeast peak of large barn	22	22	..	.....	1 mile.
Chimney on ell of house	24	40	..	.....	¾ mile.
North peak of building	110	21	..	.....	¾ mile.
Southwest chimney of small house	160	38	..	.....	1⅝ miles.
East peak of small shed	178	21	..	.....	1¼ miles.
Nail in blaze in cedar tree (4 inches diameter)	241	33	20	.....	15.79 meters.
Nail in blaze in water bush (3 inches diameter)	272	24	10	.....	9.00 meters.
Nail in blaze in cedar tree (4 inches diameter)	340	46	00	.....	13.97 meters.

IDE.

General locality.—Eastern shore of East Fork of Langford Creek at south side of entrance to Philips Creek about 2 miles northeast of main body of Langford Creek. (See Chart No. 30.)

Immediate locality.—Observed station is about 2 feet above high water, 17 yards east of shore, 15 yards southeast of a cut in shore; and 18 yards northeast of another cut in shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Hoo" (S 17° 22′ W)	0	00	00	.....	¼ mile.
Northeast peak of house	19	30	..	.....	1⅝ miles.
Chimney of house	49	45	..	.....	⅜ mile.
South peak of barn	148	20	..	.....	¾ mile.
Chimney of True house	293	22	..	.....	⅜ mile.
East peak of large barn	346	27	..	.....	⅛ mile.

HOO.

General locality.—Eastern shore of East Fork of Langford Creek about 1⅝ miles northeast of main body of Langford Creek, seven-eighths mile north of Haw Bush Point and three-eighths mile south of entrance to Philips Creek. (See Chart No. 30.)

Immediate locality.—Observed station is on marsh land about 1 foot above high water, 10 yards southeast of shore, 14 yards east of shore, 20 yards north of shore, and in front of water bushes.

Marks.—Observed station is center point of triangle on standard cement monument projecting 7 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Cult" (S 37° 20′ W)	0	00	00	.....	⅜ mile.
North peak of barn	23	23	..	.....	¾ mile.
South peak of barn	74	54	..	.....	⅜ mile.
East peak of barn	115	33	..	.....	1¼ miles.
South peak of barn	135	05	..	.....	2 miles.
North peak of large barn	311	01	..	.....	¼ mile.
Left corner of east chimney of brick house	318	56	..	.....	¼ mile.

CULT.

General locality.—Eastern shore of East Fork of Langford Creek on point about 1¼ miles northeast of main body of Langford Creek and one-fourth mile east of Leary's old wharf. (See Chart No. 30.)

Immediate locality.—Observed station is about 3 feet above high water, 12 yards south-southeast of shore, 16 yards east of shore, 4 yards south-southeast of a road, and 40 yards southeast of a wharf.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Wann" (S 28° 24′ W)	0	00	00	.....	¼ mile.
Peak of house showing through trees	12	57	..	.....	1 mile.
Chimney of house	22	32	..	.....	2¼ miles.
South peak of house	53	03	..	.....	⅜ mile.
South peak of house	147	08	..	.....	⅜ mile.
Chimney of house	170	26	..	.....	1 mile.
North chimney of house	224	39	..	.....	.....
Near peak of barn	355	43	..	.....	¾ mile.

WANN.

General locality.—Eastern shore of East Fork of Langford Creek on Haw Bush Point at west side of entrance to Kings Creek and Wanns Cove, and about seven-eighths mile northeast of main body of Langford Creek. (See Chart No. 30.)

Immediate locality.—Observed station is about 3 feet above high water, 2 yards south of shore, 2 yards north of shore, and 16 yards west-southwest of a persimmon tree.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Corn" (S 58° 36′ W)	0	00	00	.....	¼ mile.
Chimney of house near shore	6	19	..	.....	1½ miles.
Chimney on south end of house	11	25	..	.....	2¼ miles.
South peak of large barn	58	58	..	.....	½ mile.
East chimney of house	93	05	..	.....	½ mile.
Peak of house among trees	134	33	..	.....	⅞ mile.
Nail in blaze in persimmon tree (9 inches diameter)	184	32	00	.....	12.76 meters.
Nail in blaze in oak tree	196	22	10	.....	1.31 meters.
North chimney of Stoop storehouse	226	54	..	.....	½ mile.
North peak of Stoop long barn	230	32	..	.....	½ mile.
South chimney of house	271	15	..	.....	½ mile.

CORN.

General locality.—Eastern shore of East Fork of Langford Creek on east side of a small cove about three-eighths mile east of main body of Langford Creek, and one-half mile southwest of Haw Bush Point. (See Chart No. 30.)

Immediate locality.—Observed station is in edge of cultivated land about 3 feet above high water, 12 yards east-southeast of shore, and 4 yards east-southeast of line of trees between shore and station.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Neck" (S 55° 31′ W)	0	00	00	.....	⅜ mile.
Chimney of house near shore	13	03	..	.....	1 mile.
Chimney of large house	20	38	..	.....	2 miles.
Nail in blaze in locust tree (5 inches diameter)	41	48	20	.....	3.98 meters.
Nail in blaze in locust tree (4 inches diameter)	83	31	00	.....	4.60 meters.
Nail in blaze in locust tree (4 inches diameter)	132	57	00	.....	10.47 meters.
Near peak of barn	144	10	..	.....	¾ mile.
Near corner of house	320	42	..	.....	⅛ mile.

NECK.

General locality.—Eastern shore of Langford Creek on Orchard Point at south side of entrance to East Fork of Langford Creek about one-fourth mile south of Cacaway Island. (See Chart No. 30.)

Immediate locality.—Observed station is about 6 feet above high water, 6 yards south of shore, 12 yards east of shore, 10 yards east-southeast of point of bank in cultivated field, and 30 yards northwest of corner of peach orchard.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Major" (S 4° 41′ W)	0	00	00	.....	¾ mile.
Right peak of barn	31	47	..	.....	1⅞ miles.
Right chimney of house	51	44	..	.....	⅞ mile.
Right chimney of small house	73	59	..	.....	1⅛ miles.
Chimney on right end of house among trees	196	18	..	.....	¼ mile.
Nail in blaze in cedar tree (3 inches diameter)	218	40	00	.....	11.67 meters.
Nail in blaze in peach tree (3 inches diameter)	305	26	50	.....	27.58 meters.

MAJOR.

General locality.—Eastern shore of Langford Creek about 1⅛ miles north of Chester River, three-eighths mile southeast of Drum Point and three-fourth mile south of Orchard Point. (See Chart No. 30.)

Immediate locality.—Observed station is in a cultivated field about 15 feet above high water, 25 yards southeast of shore, 17 yards southeast of edge of bluff, 9 yards southeast of wire fence, and 18 yards south of locust trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Peach" (S 24° 02′ W)	0	00	00	.....	⅝ mile.
North chimney of house	19	35	..	.....	3¼ miles.
East gable of house	25	54	..	.....	1¾ miles.
North chimney of Ashley house	47	01	..	.....	1 mile.
East gable of house	68	32	..	.....	1¼ miles.
East gable of house	95	52	..	.....	1 mile.
East chimney of house	103	30	..	.....	1 mile.
Nail in blaze in locust tree (6 inches diameter)	128	02	10	.....	16.49 meters.
North chimney of Brown house	305	20	..	.....	¼ mile.

PEACH.

General locality.—Eastern shore of Langford Creek about one-half mile north of Chester River and three-fourths mile south of Drum Point. (See Chart No. 30.)

Immediate locality.—Observed station is on marsh land about 1 foot above high water, 4 yards east of shore, 300 yards west of peach orchard, and in center of triangle formed by three pine stubs driven flush with marsh to support theodolite.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Langford" (S 15° 55′ E)	0	00	00	.....	⅜ mile.
North gable of house	11	54	..	.....	3⅝ miles.
Left tangent of woods on Hail Point	28	23	..	.....	6¼ miles.
North chimney of house	72	35	..	.....	2½ miles.
East gable of barn	123	41	..	.....	¾ mile.
East chimney of small house	158	14	..	.....	1⅛ miles.
East chimney of house	167	58	..	.....	⅞ mile.
Chimney of small house	179	01	..	.....	1¼ miles.
East chimney of house	199	02	..	.....	2½ miles.

LANGFORD.

General locality.—Western shore of Chester River, on Nichols Point, at east side of entrance to Langford Creek. (See Chart No. 30.)

Immediate locality.—Observed station is on a sandy point among persimmon trees about 2 feet above high water, 12 yards inshore, and 200 yards south of a marsh.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Gordon" (S 10° 42′ W)	0	00	00	.....	2⅝ miles.
East one of group of four pine trees	2	21	..	.....	3½ miles.
East chimney of house	45	45	..	.....	2½ miles.
Chimney of small house	56	27	..	.....	2¾ miles.
Nail in blaze in persimmon tree (6 inches diameter)	72	02	30	.....	4.59 meters.
East chimney of house	87	27	..	.....	1 mile.
South gable of barn	115	53	..	.....	1⅛ miles.
South chimney of house	141	02	..	.....	1½ miles.
Chimney of house	152	40	..	.....	1½ miles.
Nail in blaze in persimmon tree (6 inches diameter)	218	39	20	.....	2.23 meters.
Nail in blaze in persimmon tree (4 inches diameter)	287	15	30	.....	7.03 meters.
Northwest corner of Earle bathhouse	299	00	..	.....	1¾ miles.
Cupola on barn	332	26	..	.....	2 miles.
North gable of house	346	57	..	.....	2¼ miles.

SPANIARD POINT 2 UPPER.

General locality.—Southeastern shore of Chester River on Lower Spaniard Point about 1¼ miles east of Nichols Point, seven-eighths mile south of Cliffs Landing and one-half mile southwest of Spaniard Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is on a sand beach about 1 foot above high water, 8 yards southeast of shore, and 300 yards northwest of woods. Cement monument marking reference station is 11.72 meters S 70° 51′ E of observed station.

Marks.—Observed station is nail in 3-inch cement-filled tile pipe bearing the legend "U. S. C. S. 1896," with top 6 inches below surface of ground. Reference station is center point of triangle on standard cement monument projecting 6 inches above surface of ground.

References.—	°	′	″		
"Langford" (N 87° 27′ W)	0	00	00	.....	1¼ miles.
South gable of barn	2	44	..	.....	2⅞ miles.
East gable of barn	16	10	..	.....	2⅜ miles.
Church steeple	29	25	..	.....	3 miles.
West chimney of Brown house	37	38	..	.....	1⅜ miles.
West chimney of house	76	08	..	.....	1 mile.
Right tangent of piles of Cliffs Landing	100	40	..	.....	⅞ mile.
South gable of house	101	05	..	.....	1⅛ miles.
"Westcotts Windmill"	117	31	..	.....	2¼ miles.
REFERENCE STATION	196	36	50	.....	11.72 meters.
North gable of barn	295	57	..	.....	3 miles.
Right tangent of woods on Gordon Point	302	00	..	.....	3 miles.
East chimney of house on Grays Inn Creek	352	39	..	.....	3⅜ miles.

QUAKER.

General locality.—Western shore of Chester River in Cliff Bight about three-fourths mile north of Nichols Point. (See Chart No. 30.)

Immediate locality.—Observed station is on marsh land about 3 feet above high water, 8 yards northwest of shore, 8 yards southeast of a wire fence and a row of pear trees, and 6 yards south of a group of persimmon trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Brown" (N 80° 42′ E)	0	00	00	.....	⅞ mile.
West gable of barn	15	05	..	.....	2¼ miles.
Left tangent of Spaniard Wharf	24	17	..	.....	1¼ miles.
Northeast corner of Earle house	70	08	..	.....	2 miles.
North gable of house near Reeds Creek	102	24	..	.....	3¼ miles.
Right tangent of woods on Gordon Point	114	37	..	.....	3⅓ miles.
Lone oak tree	147	43	..	.....	½ mile.
Nail in blaze in hackberry tree (6 inches diameter)	203	08	30	.....	4.81 meters.
Nail in blaze in persimmon tree (8 inches diameter)	319	19	..	.....	3.43 meters.
West chimney of house	351	40	..	.....	⅞ mile.

EVANS.

General locality.—Southeastern shore of Chester River on Upper Spaniard Point about five-eighths mile south of Cliffs Landing and one-eighth mile northeast of Spaniard Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is on marsh land about 1 foot above high water, 10 yards north of shore, and 200 yards east of end of Spaniard Wharf.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Chester" (S 80° 13′ E)	0	00	00	.....	¾ mile.
Lone walnut tree (6 inches diameter)	106	17	..	.....	200 yards.
South gable of fishing shack near shore	136	00	..	.....	⅛ mile.
"Spaniard Wharf 1896" (old triangulation station)	124	49	30	.....	2.49 meters.
Right tangent of piles at end of Spaniard Wharf	167	23	..	.....	250 yards.
North chimney of house	189	26	..	.....	1½ miles.
West chimney of house	212	13	..	.....	1⅛ miles.
Chimney of Martin cabin	219	20	..	.....	¾ mile.
North gable of Cliffs Landing house	234	31	..	.....	¾ mile.
East chimney of house	247	28	..	.....	⅞ mile.
North gable of barn	270	23	..	.....	1¾ miles.
"Westcotts Windmill"	282	55	10	.....	1¾ miles.
East gable of barn	308	31	..	.....	1⅛ miles.
North gable of Hay barn	318	03	..	.....	2¼ miles.
East gable of barn	348	39	..	.....	1¼ miles.

BROWN.

General locality.—Northwestern shore of Chester River on Cliffs Point between Cliffs Bight and Commegys Bight about one-fourth mile west of Cliffs Landing. (See Chart No. 30.)

Immediate locality.—Observed station is in a cultivated field about 12 feet above high water. 25 yards north of shore, 7 yards north of edge of bank, and 45 yards southeast of a large cherry tree.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Deep Point 2" (N 80° 15′ E)	0	00	00	.....	1⅜ miles.
West gable of barn	4	49			2⅓ miles.
West chimney of house	22	55	..	.....	1¾ miles.
North gable of small fishing shack	82	04	..	.....	¾ mile.
North gable of barn	115	26	..	.....	3½ miles.
Nail in blaze in locust tree (5 inches diameter)	157	07	10	.....	13.55 meters.
Nail in blaze in walnut tree (15 inches diameter)	209	09	50	.....	14.13 meters.
East gable of house	220	55	..	.....	300 yards.
East gable of barn	334	04	..	.....	300 yards.
West chimney of house	338	33	..	.....	1½ miles.
Northwest corner of Martin shack	343	03	..	.....	77 yards.
West gable of wharf house	355	27	..	.....	¼ mile.

STRATTON.

General locality.—Northwestern shore of Chester River at west side of entrance to Commegys Bight near Cliffs Landing and about one-fourth mile northeast of Cliffs Point. (See Chart No. 30.)

Immediate locality.—Observed station is on marsh land about on level with high water, 5 feet north of shore, and 21 yards southwest of entrance to a small creek.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Deep Point 2" (N 83° 53′ E)	0	00	00	1¼ miles.
Cupola on barn	7	50	..	2 miles.
West gable of corncrib	23	27	..	1½ miles.
Southwest corner of wharf house	82	04	..	100 yards.
North gable of house	114	03	..	3 miles.
Right tangent of woods on Gordon Point	125	14	..	3⅞ miles.
Pine tree on line with bulkhead of wharf	154	29	..	100 yards.
North chimney of house	266	37	..	400 yards.
West gable of Westcott barn	319	58	..	1¼ miles.
West gable of barn	340	32	..	1¼ miles.

CHESTER.

General locality.—Southeastern shore of Chester River about three-fourths mile east of Upper Spaniard Point and seven-eighths mile south of Deep Point. (See Chart No. 30.)

Immediate locality.—Observed station is in a low meadow about 2 feet above high water, 10 yards south of shore, 2 yards south of board and wire fence, 2 yards east of rail fence, and 35 yards northwest of gate to front yard of a house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Evans" (N 80° 12′ W)	0	00	00	¾ mile.
South chimney of house	6	21	..	2¼ miles.
East gable of Cliffs Landing house	23	38	..	1⅛ miles.
East gable of house	35	11	..	1½ miles.
Chimney of house	51	47	..	1½ miles.
South chimney of Westcott house	76	43	..	1⅝ miles.
West gable of barn	85	17	..	1 mile.
Left tangent of piles of Indiantown Wharf	116	41	..	1¼ miles.
South cupola of barn	139	37	..	1¼ miles.
West chimney of Emory house	158	45	..	¼ mile.
West chimney of Emory tenant house	218	16	..	100 yards.
Nail in blaze in persimmon tree (6 inches diameter)	247	33	10	11.67 meters.
Nail in blaze in locust tree (12 inches diameter)	328	54	50	24.18 meters.

WESTCOTT'S WINDMILL.

General locality.—Northwestern side of Chester River about one-eighth mile inshore from northern end of Commegys Bight and 1⅜ miles northeast of Cliffs Landing.

Immediate locality.—Observed station is about 35 feet high and on a barn. It is separate from the water tank which is back of the barn.

Marks.—Observed station is center point of windmill.

References.—None necessary.

CORPSE.

General locality.—Southeastern shore of Chester River about three-eighths mile southeast of Deep Point, 1½ miles east-northeast of Spaniard Wharf, and five-eighths mile southwest of Indiantown Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is on a sanded marsh strip about 1 foot above high water, 3 yards east of shore, 18 yards south-southeast of a point, 43 yards north by east of another point, and one-eighth mile west of a large house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Chester" (S 39° 24′ W)	0	00	00	⅞ mile.
Right tangent of Spaniard Wharf	30	29	..	1½ miles.
Chimney of house near Cliffs Landing	61	43	..	1¾ miles.
Right peak of house on Deep Point	83	48	..	½ mile.
Left one of two chimneys on south end of brick house	147	03	..	1 mile.
Left tangent of Indiantown Wharf	173	17	..	⅝ mile.
Chimney of ell of house near Indiantown Wharf	181	53	..	⅝ mile.
Left tangent of large house	228	11	..	¼ mile.
Right chimney of house	297	55	..	⅞ mile.
Chimney outside of old house	359	07	..	⅞ mile.

DEEP POINT 2.

General locality.—Northwestern shore of Chester River on Deep Point about 1¼ miles east of Cliffs Landing, 1¼ miles northeast of Spaniard Wharf, and three-fourths mile west of Indiantown Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is about 1 foot above high water, among several cedar and poplar trees on a point, 13 yards northeast of shore, 21 yards southwest by west of shore, 40 yards northwest of extreme end of point, and 120 yards southeast of a 1½-story house. Cement monument marking reference station is on line with west end of house 17.14 meters N 53° 52′ W of observed station.

Marks.—Observed station is nail in center of 2-inch tile pipe set in cement with top 2 inches below surface of ground. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″	
"Thorn" (N 40° 10′ E)	0	00	00	¾ mile.
Left chimney of house	11	43	..	3¾ miles.
Left tangent of Ashland Wharf	13	04	..	1⅜ miles.
Near chimney on west peak of house	22	58	..	2½ miles.
Southwest peak of house near Indiantown Wharf	31	23	..	⅞ mile.
Nail in blaze in branch of cedar tree (15 inches diameter)	45	27	00	11.48 meters.
Cupola on barn	61	43	..	1 mile.
Nail in blaze in poplar tree (11 inches diameter)	93	54	00	15.02 meters.
Largest one of three chimneys of house	102	07	..	1¾ miles.
Chimney of brick house	153	25	..	1 mile.
Chimney on near peak of house	233	39	..	1¼ miles.
REFERENCE STATION	265	58	20	17.14 meters.
Nail in blaze in poplar tree (10 inches diameter)	266	00	20	17.78 meters.
Right tangent of back of Westcott house	279	56	..	120 yards.
Nail in blaze in branch of double tree (8 inches diameter)	340	43	00	19.74 meters.

INDIAN.

General locality.—Southeastern shore of Chester River near Indiantown Wharf about three-fourths mile east-northeast of Deep Point. (See Chart No. 30.)

Immediate locality.—Observed station is about 2 feet above high water, 10 yards east of shore end of Indiantown Wharf, 10 yards southeast of shore, 21 yards north of curved fence of yard of a small house, and 40 yards north by west of a house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Corpse" (S 38° 10′ W)	0	00	00	5/8 mile.
Right tangent of Spaniard Wharf	22	40	.. ..	2 miles.
Right chimney of Westcott bungalow	34	55	.. ..	3/4 mile.
Near corner of wharf house	72	50	.. ..	100 yards.
Left tangent of Massey brick house	96	48	.. ..	1/2 mile.
Large chimney of house beyond trees	146	08	.. ..	1 mile.
Chimney of small house near Quaker Neck Wharf	161	24	.. ..	1 1/4 miles.
Left tangent of Ashland Wharf	176	19	.. ..	5/8 mile.
Lone cedar tree	182	24	.. ..	120 yards.
Nail in blaze in cedar tree (12 inches diameter)	287	43	30	31.24 meters.
Near corner of house	288	24	.. ..	5/8 mile.
Nail in blaze in cedar tree (10 inches diameter)	305	59	10	18.68 meters.
Nail in blaze in cedar tree (20 inches diameter)	319	41	10	30.92 meters.
Right tangent of curved fence	324	40	.. ..	40 yards.
Chimney of large house	334	58	.. ..	1/2 mile.

THORN.

General locality.—Northwestern shore of upper Chester River opposite White Cove near Westcott Wharf, and about three-fourths mile northeast of Deep Point. (See Chart No. 30.)

Immediate locality.—Observed station is in a cultivated field about 6 feet above high water, 15 yards northwest of shore, 5 yards southwest of corner of board fence, 60 yards south-southeast of a brick house, and 42 yards southwest of piles of old wharf at shore line.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Shippen" (N 43° 17′ E)	0	00	00	1/2 mile.
Near peak of large house	18	40	.. ..	4 1/2 miles.
Left tangent of Ashland Wharf	23	21	.. ..	5/8 mile.
Corner post of fence (4 inches diameter)	33	23	10	4.33 meters.
Cupola of barn	104	13	.. ..	7/8 mile.
Chimney of small house	159	09	.. ..	1 3/4 miles.
Near corner of Massey house	208	40	.. ..	1/8 mile.
Nail in blaze in peach tree (6 inches diameter)	283	57	22	13.74 meters.
Nail in blaze in fence post (3 inches diameter)	338	27	20	5.35 meters.

ASHLAND.

General locality.—Southeastern shore of upper Chester River near Ashland Wharf and about one-fourth mile northeast of White Cove. (See Chart No. 30.)

Immediate locality.—Observed station is about 1 foot above high water, 5 yards southeast of shore, 32 yards southwest of fence, and 20 yards west-northwest of persimmon trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Indian" (S 43° 29′ W)	0	00	00	½ mile.
Right tangent of Indiantown Wharf	5	44	..	¼ mile.
Chimney on ell of Massey house	37	46	..	⅝ mile.
Chimney of small house	116	46	..	¾ mile.
Peak of Quaker Neck Wharf house	145	43	..	¾ mile.
Nail in blaze in fence post (4 inches diameter)	171	12	50	28.80 meters.
Nail in blaze in persimmon tree (3 inches diameter)	247	22	50	22.81 meters.
Nail in blaze in persimmon tree (3 inches diameter)	289	34	10	17.29 meters.
Chimney of summerhouse	356	04	..	½ mile.

SHIPPEN.

General locality.—Northwestern shore of upper Chester River opposite Ashland Wharf on point at southern side of entrance to Shippen Creek. (See Chart No. 30.)

Immediate locality.—Observed station is on sand and marsh point about 1 foot above high water, 6 yards southwest of shore, 12 yards northeast of shore, 15 yards north of end of sand point, and 25 yards southeast of trees along edge of cultivated field.

Marks.—Observed station is center point of triangle on standard cement monument with top projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Oyster" (N 38° 22′)	0	00	00	¾ mile.
Chimney on left end of house	18	37	..	2⅛ miles.
Peak of barn	20	49	..	2¼ miles.
Chimney on end of house	27	59	..	2¼ miles.
Chimney on right end of house	54	23	..	1 mile.
Left tangent of piles of Ashland Wharf	69	40	..	¼ mile.
Chimney on near end of house	79	08	..	1 mile.
Spindle on barn cupola	135	58	..	1 mile.
Tangent of piles at Indiantown Wharf	154	35	..	⅝ mile.
Tangent of Deep Point	182	24	..	1¼ miles.
Near chimney of house	189	40	..	½ mile.
Nail in blaze in pear tree (12 inches diameter)	263	35	40	22.59 meters.
Nail in blaze in cedar tree (10 inches diameter)	292	46	10	20.70 meters.
Near peak of barn	341	44	..	⅝ mile.
Smoke pipe on Quaker Neck wharf house	359	56	..	⅝ mile.

BURNS.

General locality.—Southeastern shore of upper Chester River opposite Quaker Neck Wharf, about one-half mile northeast of Ashland Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is in meadow land about 1 foot above high water, 10 yards southeast of shore, 50 yards southwest by south of point, 145 yards northeast by east of a fence, and 200 yards northwest of another fence.

Marks.—Observed station is center point of triangle on standard cement monument projecting 7 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Ashland" (S 45° 22′ W)	0	00	00	⅝ mile.
Chimney of house on Westcott Wharf	18	36	..	1¼ miles.
South peak of large barn	78	48	..	⅝ mile.
Near chimney of Quaker Neck Wharf house	89	20	..	½ mile.
Left chimney of old house	108	41	..	.....
Left tangent of hook-shaped point of marsh	183	22	..	½ mile.
Near peak of house	196	25	..	1½ miles.
Windmill	234	22	30	¾ mile.
Chimney of house	280	56	..	1 mile.
Left chimney of house on Ashland Road	323	57	..	1 mile.

OYSTER.

General locality.—Northwestern shore of upper Chester River about one-eighth mile northeast of Quaker Neck Wharf and one-half mile southwest of entrance to Jarretts Creek. (See Chart No. 30.)

Immediate locality.—Observed station is in a cultivated field about 20 feet above high water, 8 yards west-northwest of edge of bank, 9 yards north-northwest of edge of bank, 25 yards northeast by north of a cedar tree, 100 yards southwest of low land, and 115 yards east of fence near a house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Jarrett" (N 67° 48′ E)	0	00	00	⅝ mile.
Left peak of Bookers Wharf house	21	00	..	1⅛ miles.
Cupola	50	14	..	1 mile.
Windmill	50	55	..	⅞ mile.
Left chimney of house	107	14	..	1⅜ miles.
Cupola on barn	123	50	..	1¾ miles.
Nail in blaze in cedar tree (7 inches diameter)	143	13	30	24.90 meters.
Smoke pipe of wharf house	151	03	..	⅛ mile.
Left chimney of house	180	43	..	130 yards.
Left chimney of old house on near side of Jarretts Creek	277	29	..	¾ mile.
Chimney of house among trees	309	06	..	1¼ miles.

STARKLEY.

General locality.—Southeastern shore of upper Chester River, about three-fourths mile east of Quaker Neck Wharf and one-half mile southwest of Bookers Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is in meadow land about 1 foot above high water, 10 yards east by south of shore, 33 yards south of first cut in shore, 140 yards north by west of a fence, 145 yards southwest of point where another fence meets shore, and 275 yards south of large cedar tree.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Burns" (S 61° 34′ W)	0	00	00	.....	½ mile.
Left chimney of Quaker Neck Wharf house	39	02	..	.....	⅞ mile.
Right peak of barn	66	43	..	.....	1 mile.
Peak of middle dormer window of large house	114	30	..	.....	¾ mile.
Left peak of large house	163	49	..	.....	1¼ miles.
Left peak of Bookers Wharf house	187	48	..	.....	½ mile.
Large cedar tree	191	11	..	.....	275 yards.
Spindle on left cupola of barn	262	00	20	.....	½ mile.
Weather vane on barn	320	01	50	.....	½ mile.

JARRETT.

General locality.—Northwestern shore of upper Chester River, about five-eighths mile southwest of Melton Point, one-fourth mile east of entrance to Jarretts Creek, and five-eighths mile west of Bookers Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is about 1 foot above high water, 14 yards north of shore, 50 yards from a short fence at shore, 65 yards west of entrance to slough, and 175 yards from another fence.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Melton" (N 61° 34′ E)	0	00	00	.....	⅝ mile.
Left peak of house on ridge	1	35	..	.....	1½ miles.
Right peak of small house	47	58	..	.....	¾ mile.
West peak of Bookers Wharf house	48	50	..	.....	⅝ mile.
Spindle on left cupola on barn	96	01	..	.....	¾ mile.
Weather vane on cupola on barn	125	48	..	.....	1 mile.
Chimney of house near Indiantown Wharf	155	29	..	.....	1⅞ miles.
Large chimney of Massey brick house	169	16	..	.....	1⅞ miles.
Smoke pipe of Quaker Neck Wharf house	182	50	..	.....	¾ mile.
Peak of middle dormer window of large house	299	07	..	.....	½ mile.

BOOKER.

General locality.—Southeastern shore of upper Chester River, about 175 yards northeast of Bookers Wharf and one-half mile south of Melton Point. (See Chart No. 30.)

Immediate locality.—Observed station is on sanded marsh about 1 foot above high water, 6 yards southeast of shore, 13 yards east by south of a small point, 30 yards southwest by south of locust trees, 125 yards northwest by north of a house on 20-foot bank, and 140 yards northwest of a creek.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Starkley" (S 67° 55′ W)	0	00	00	.....	⅝ mile.
Left chimney of Quaker Neck Wharf house	17	46	..	.....	1½ miles.
Near peak of house in woods	53	23	..	.....	¾ mile.
Peak of middle dormer window on left side of house among trees	68	05	..	.....	⅞ mile.
Chimney of house	113	38	..	.....	1 mile.
Nail in blaze in locust tree (4 inches diameter)	182	23	40	.....	29.46 meters.
Near peak of house on bank	293	48	..	.....	125 yards.
Right peak of Bookers Wharf house	350	47	..	.....	175 yards.

JOURNEY.

General locality.—Eastern shore of upper Chester River, opposite Melton Point, about one-half mile northeast of Bookers Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is in cultivated land about 20 feet above high water, 3 yards southeast by east of edge of bank, south of large elm tree, and northeast of several sycamore and locust trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Booker" (S 28° 15′ W)	0	00	00	¼ mile.
Right peak of Bookers Wharf house	4	24	.. ..	½ mile.
Smoke pipe of Quaker Neck Wharf house	41	21	.. ..	1⅝ miles.
Near peak of house with three dormer windows	77	01	.. ..	⅞ mile.
Right chimney of 2½-story house	107	02	.. ..	1½ miles.
Nail in blaze in elm tree (10 inches diameter)	134	27	40	22.70 meters.
Large cedar tree in yard near fence	187	30	.. ..	400 yards.
Near peak of old house	318	16	.. ..	200 yards.
Nail in blaze in sycamore tree (8 inches diameter)	355	05	.. ..	21.00 meters.

MELTON.

General locality.—Western shore of upper Chester River, on Melton Point, about one-half mile north of Bookers Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is about 2 feet above high water, 4 yards south of shore, 40 yards north of shore, 32 yards northwest of extreme end of point, 2 yards northeast of marsh, and 125 yards east-southeast of clump of cedar trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Pomona" (N 53° 38′ W)	0	00	00	¼ mile.
Right chimney of house on knoll	17	17	.. ..	1¼ miles.
Right peak of roof of building	68	07	.. ..	⅝ mile.
Left chimney of house	118	37	.. ..	⅞ mile.
Northwest chimney of house on bank near Bookers Wharf	219	20	.. ..	¼ mile.
Northwest peak of Bookers Wharf house	226	38	.. ..	½ mile.
Smoke pipe of Quaker Neck Wharf house	296	46	.. ..	1¾ miles.
Near chimney of house with dormer windows	346	50	.. ..	⅝ mile.

CAKE.

General locality.—Eastern shore of upper Chester River, about three-eighths mile north of Melton Point and seven-eighths mile north of Bookers Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is in a marsh about 1 foot above high water, 13 yards east-southeast of shore, 35 yards northeast by north of shore, 35 yards northeast of rounded point, 150 yards north-northwest of entrance to a creek, 200 yards south-southwest of buildings, and 300 yards south of a house among trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.	°	′	″		
"Journey" (S 36° 29′ E)	0	00	00	.....	¼ mile.
Chimney on ell of house to left of trees	3	40	..	.....	⅝ mile.
Northwest peak of Bookers Wharf house	38	53	..	.....	⅞ mile.
South chimney of near one of twin houses	142	49	..	.....	¾ mile.
East chimney of brick house among trees on ridge	169	16	..	.....	1¼ miles.
South peak of building	229	41	..	.....	¼ mile.
Large lone tree on ridge	299	10	..	.....	¼ mile.
Left chimney of large house	324	39	..	.....	¼ mile.

POMONA.

General locality.—Western shore of upper Chester River about five-eighths mile northwest of Melton Point and one-half mile south of entrance to Browns Creek. (See Chart No. 30.)

Immediate locality.—Observed station is among small trees near edge of cultivated field, about 12 feet above high water, 6 yards west of edge of bank, and 8 yards from top of slope to marsh.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Taste" (N 5° 30′ W)	0	00	00	.....	½ mile.
Nail in blaze in locust tree (3 inches diameter)	14	28	20	.....	5. 23 meters.
Windmill	52	29	30	.....	2 miles.
Right corner of house	71	49	..	.....	1¼ miles.
Large lone tree in field	93	20	..	.....	1¼ miles.
Left chimney of large house	103	47	..	.....	1½ miles.
Ell of house to left of trees	126	48	..	.....	1½ miles.
Nail in blaze in locust tree (4 inches diameter)	167	10	50	.....	7. 74 meters.
Nail in blaze in cedar tree (8 inches diameter)	196	39	40	.....	12. 18 meters.
Large cherry tree	277	32	..	.....	300 yards.

BILL.

General locality.—Eastern shore of upper Chester River about three-fourths mile north of Melton Point and nearly opposite Browns Creek. (See Chart No. 30.)

Immediate locality.—Observed station is in grove of elm, ash, and oak trees on north side of a point about 20 feet above high water, 7 yards south-southeast of edge of bank, 30 yards east-northeast of a small house, and 40 yards west-southwest of a fence.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Cake" (S 15° 41′ E)	0	00	00	.....	⅜ mile.
Right peak of Bookers Wharf house	12	04	..	.....	1¼ miles.
Nail in blaze in elm tree (10 inches diameter)	20	43	40	.....	12. 37 meters.
Nail in blaze in elm tree (9 inches diameter)	69	23	10	.....	9. 92 meters.
Nail in blaze in oak tree (24 inches diameter)	129	28	40	.....	2. 95 meters.
East chimney of brick house	137	29	..	.....	¾ mile.
Peak of sharp roof	155	53	..	.....	⅛ mile.
"Robertson Windmill"	243	52	40	.....	2¼ miles.
Spindle on peak of house on Rolphs Wharf	247	37	40	.....	2¾ miles.
Nail in blaze in tree (8 inches diameter)	280	24	50	.....	7. 60 meters.
Left chimney of house on ridge	322	17	..	.....	¾ mile.
Nail in blaze in tree (15 inches diameter)	343	25	10	.....	12. 30 meters.
Chimney on ell of house	349	32	..	.....	1 mile.

TASTE.

General locality.—Western shore of upper Chester River on point at east side of entrance to Browns Creek, about 1 mile northwest of Melton Point. (See Chart No. 30.)

Immediate locality.—Observed station is on a marsh point between Chester River and Browns Creek, about 5 yards north of shore of Chester River, 30 yards south of shore of Browns Creek, 50 yards southwest of point of shore of Browns Creek, and 55 yards west-southwest of cedar trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Make" (N 52° 14′ E)	0	00	00	.....	⅜ mile.
Windmill	7	11	30	.....	1¾ miles.
Chimney of house	25	20	..	.....	1¾ miles.
Left chimney of house on ridge	68	58	..	.....	1¼ miles.
Chimney on ell of house	84	20	..	.....	1¾ miles.
West chimney of left one of twin houses	142	19	..	.....	⅜ mile.
Right chimney of brick house	266	13	..	.....	¾ mile.
Largest cedar tree in clump (15 inches diameter)	350	28	..	.....	54 yards.

MAKE.

General locality.—Western shore of upper Chester River about 1⅛ miles north of Melton Point and three-eighths mile northeast of entrance to Browns Creek. (See Chart No. 30.)

Immediate locality.—Observed station is in a pasture land, about 2 feet above high water, 10 yards north of shore, 110 yards west of tangent of point of curve of shore, and 325 yards southeast of farm buildings behind trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Broad" (N 61° 13′ E)	0	00	00	.....	½ mile.
Windmill	0	22	30	.....	1½ miles.
Near peak of canning house at Wilmers Wharf	18	26	..	.....	1⅜ miles.
Chimney on ell of house on ridge	45	45	..	.....	1¼ miles.
Left chimney of house on ridge	80	05	..	.....	1½ miles.
Spindle on cupola on barn	118	55	..	.....	2¼ miles.
Left chimney of left one of twin houses	155	18	..	.....	¾ mile.
West chimney of house	227	30	..	.....	1 mile.
South peak of building in woods	307	04	..	.....	1 mile.

DOWN.

General locality.—Southeastern shore of upper Chester River about 2 miles southwest of entrance to Southeast Creek and 1 mile east of entrance to Browns Creek. (See Chart No. 30.)

Immediate locality.—Observed station is on a small rounded point of sanded marsh, about 1 foot above high water, 5 yards south of shore, 40 yards east by south of an inlet, and 95 yards west of a fence beyond trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Bill" (S 73° 52′ W)	0	00	00	.....	½ mile.
East peak of large barn	33	37	..	.....	1 mile.
Chimney of house	75	53	..	.....	1½ miles.
"Robertson Windmill"	138	57	20	.....	1 mile.
Right peak of small house near Rolphs Wharf	153	54	..	.....	2¼ miles.
Left peak of taller of two barns	197	17	..	.....	½ mile.
Nail in blaze in cedar tree (5 inches diameter)	232	06	10	.....	52. 50 meters.
Nail in blaze in cedar tree (5 inches diameter)	253	25	40	.....	47. 18 meters.
Nail in blaze in pear tree (3 inches diameter)	348	29	50	.....	14. 34 meters.

JULIUS.

General locality.—Southeastern shore of upper Chester River about one-half mile southwest of Wilmers Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is on a sanded grass point fringed by cedar trees and about 2 yards south of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Down" (S 56° 12′ W)	0	00	00	.....	½ mile.
Chimney of left one of twin houses	10	37	..	.....	1½ miles.
Near peak of large barn	37	29	..	.....	1 mile.
Middle one of three large trees	39	50	..	.....	⅞ mile.
"Robertson Windmill"	130	23	30	.....	1¼ miles.
South chimney of house at Rolphs Wharf	165	38	..	.....	1⅝ miles.
Weather vane on large barn	176	18	..	.....	1¼ miles.
Northwest peak of Wilmers Wharf cannery	187	53	..	.....	⅜ mile.
Nail in blaze in cedar tree (8 inches diameter)	198	52	..	.....	4. 77 meters.
Nail in blaze in cedar tree (8 inches diameter)	318	06	20	.....	4. 30 meters.
Nail in blaze in cedar tree (9 inches diameter)	345	21	..	.....	13. 11 meters.

BROAD.

General locality.—Northwestern side of upper Chester River, on an island at entrance to Broad Creek, about 1 mile northeast of entrance to Browns Creek. (See progress map.)

Immediate locality.—Observed station is on western end of a marsh island, about 9 yards north of shore, 43 yards south of shore, and 52 yards east-southeast of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Nils" (N 80° 24′ E)	0	00	00	.....	½ mile.
Near peak of cannery	7	17	..	.....	1⅛ miles.
Chimney on ell of house on ridge	51	09	..	.....	2¼ miles.
Right peak of barn	98	26	..	.....	1 mile.
Peak of middle dormer window of large house	132	08	..	.....	1½ miles.
East peak of large barn to left of large tree	190	34	..	.....	1 mile.
"Robertson Windmill"	341	25	30	.....	1½ miles.

NILS.

General locality.—Northwestern shore of upper Chester River, about three-fourths mile west of entrance to Southeast Creek and one-half mile east of an island at entrance to Broad Creek. (See progress map.)

Immediate locality.—Observed station is in edge of cultivated field, about 5 feet above high water, 4 yards north of shore, 110 yards east by south of tangent of point of curve of shore, and 450 yards southwest of a house and windmill.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Robertson" (N 59° 04′ E)	0	00	00	½ mile.
Weather vane on southwest peak of largest barn on ridge	10	46		1 1/2 miles.
North peak of Wilmers Wharf cannery	37	03		½ mile.
Chimney of house near Wilmers Wharf	41	52		½ mile.
West chimney of large house on ridge	133	32		1 mile.
Near peak of roof of house on hill	158	22		1 mile.
"Robertson Windmill"	336	55		½ mile.

WILMERS.

General locality.—Southeastern shore of upper Chester River on southwest side of entrance to Southeast Creek, about 175 yards northeast of Wilmers Wharf. (See progress map.)

Immediate locality.—Observed station is on a sanded grass point between river and marsh, about 3 feet above high water, 7 yards east of shore, 5 yards southwest of shore, and 6 yards southeast of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Julius" (S 60° 34′ W)	0	00	00	½ mile.
Chimney on near one of twin houses	4	58		2 3/8 miles.
East peak of large barn	27	14		1½ miles.
"Robertson Windmill"	74	09	30	5/8 mile.
Cupola on Robertson barn	83	23		½ mile.
Flagpole on Rolphs Wharf	154	06	20	1¼ miles.
Weather vane on large barn	169	23		1½ miles.
Cupola on barn	212	59		300 yards.
Cupola on barn	284	57		5/8 mile.
Right peak of Wilmers Wharf cannery	348	26		175 yards.

ROBERTSON WINDMILL.

General locality.—Northwestern side of upper Chester River opposite entrance to Southeast Creek, about 1¼ miles southeast of Rolphs Wharf. (See progress map.)

Immediate locality.—Observed station is on windmill on high tower in rear of house.

Marks.—Observed station is center point of windmill.

References.—None necessary.

ROBERTSON.

General locality.—Northwestern shore of upper Chester River near Riverside Wharf opposite entrance to Southeast Creek. (See Progress map.)

Immediate locality.—Observed station is about 2 feet above high water, 5 yards northwest of shore, 45 yards northeast of shore end of a wharf, and 100 yards southwest of a point of land.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Thorsten" (N 52° 00′ E)	0	00	00	⅝ mile.
Weathervane on large barn	9	30	..	1¾ miles.
Cupola on old barn	50	31	..	1½ miles.
Chimney of house near Wilmers Wharf	97	11	..	⅜ mile.
Pinnacle on cupola on barn	105	15	..	½ mile.
Northwest peak of cannery	117	41	..	¼ mile.
Weathervane on cupola on barn	256	15	20	¼ mile.
Spindle on cupola on another barn	260	56	..	¼ mile.
Spindle on peak of Rolphs lower wharf house	359	29	..	1¼ miles.

SOUTHEAST.

General locality.—Southeastern shore of upper Chester River on Deep Point at northeastern side of entrance to Southeast Creek about three-fourths mile south-southwest of Rolphs Wharf and one-half mile northeast of Wilmers Wharf. (See Progress map.)

Immediate locality.—Observed station is on cultivated land about 15 feet above high water, 19 yards south of edge of bank, 21 yards east by north of edge of bank, and 27 yards east by south of extreme point of bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Wilmers" (S 57° 46′ W)	0	00	00	½ mile.
Right tangent of Wilmers Wharf	2	57	..	½ mile.
"Robertson Windmill"	34	41	20	¾ mile.
Spindle on cupola on barn	38	02	..	¾ mile.
Weathervane on cupola on barn	38	32	..	¾ mile.
Near peak of long, small shanty	118	31	..	2 miles.
Left peak of large barn	134	39	..	1¼ miles.
Flagstaff on Rolphs Wharf house	140	54	10	⅞ mile.
Right peak of long barn	191	46	..	¾ mile.
Lightning rod between two chimneys on house	248	51	..	⅞ mile.
Right peak of Wilmers Wharf cannery	358	34	..	⅝ mile.

THORSTEN.

General locality.—Northwestern shore of upper Chester River about three-fourths mile northeast of Wilmers Wharf and one-half mile north of entrance to Southeast Creek. (See Progress map.)

Immediate locality.—Observed station is about 3 feet above high water, 12 yards northwest of shore, 10 yards northeast of short fence, and 4 yards southeast of lone cedar tree.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Blank" (N 19° 37′ E)	0	00	00	.....	⅜ mile.
Northwest peak of large barn	4	34	..	.....	1¼ miles.
Northwest peak of large barn	21	09	..	.....	1 mile.
Flagstaff on Rolphs Wharf	23	33	..	.....	⅝ mile.
Weathervane on very large barn	48	01	..	.....	1¼ miles.
West peak of barn behind wharf	81	03	..	.....	1 mile.
Lightning rod to right of two chimneys of house	111	15	..	.....	1¾ miles.
Nail in blaze in fence post	115	15	30	.....	8.85 meters.
Top point of roof of large brick house on ridge	135	05	40	.....	2¼ miles.
Spindle on cupola on left one of two barns at Wilmers Wharf	177	08	40	.....	¾ mile.
Northwest peak of Wilmers Wharf cannery	190	15	..	.....	¾ mile.
Nail in blaze in cedar tree (10 inches diameter)	279	43	30	.....	3.40 meters.

BLANK.

General locality.—Northwestern shore of upper Chester River about one-fourth mile west of Rolphs Wharf and three-fourths mile north of entrance to Southeast Creek. (See Progress map.)

Immediate locality.—Observed station is on a grassy point about 2 feet above high water, 7 yards west of shore, 9 yards north of shore, 8 yards northwest of extreme end of point, and 40 yards from a dense clump of trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Rolphs" (N 82° 37′ E)	0	00	00	.....	¼ mile.
Weathervane on wharf house	10	19	..	.....	¼ mile.
Left peak of wharf house	71	30	..	.....	¼ mile.
Left peak of small house among trees	104	28	30	.....	1¾ miles.
Spindle on barn cupola	115	06	..	.....	1¾ miles.
Peak of middle dormer window of house	271	38	..	.....	1¼ miles.
Peak of large barn	333	25	..	.....	⅝ mile.
Flagstaff on Rolphs Wharf house	356	27	..	.....	¼ mile.

ROLPHS.

General locality.—Eastern shore of upper Chester River about 100 yards southeast of Rolphs Wharf and three-fourths mile north of entrance to Southeast Creek. (See Progress map.)

Immediate locality.—Observed station is on a grass bank between two large willow trees about 6 feet above high water, 5 yards northeast of shore, 19 yards south-southwest of side gate to yard, and 7 yards southwest of a road 3 feet higher than observed station.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Southeast" (S 22° 53′ W)	0	00	00	.....	¾ mile.
Peak of Wilmers Wharf cannery	15	06	..	.....	1¼ miles.
Flagstaff on Rolphs Wharf	76	59	..	.....	100 yards.
Nail in blaze in willow tree (24 inches diameter)	88	06	20	.....	7. 16 meters.
Chimney on ell of Story house	151	36	..	.....	53 yards.
Nail in blaze in willow tree (27 inches diameter)	220	31	10	.....	13. 96 meters.
Chimney on ell of Story house	261	56	..	.....	120 yards.
Nail in blaze in willow tree (25 inches diameter)	309	26	40	.....	8. 51 meters.
Weathervane on middle of lower wharf house	347	42	..	.... .	100 yards.

BOUNDARIES OF OYSTER BARS.

EXPLANATION.

The law of the United States authorizing the cooperation of the Department of Commerce and Labor in the survey of natural oyster bars of Maryland provides for the designation and employment by the Department of Commerce and Labor of such officers, experts, and other technically qualified persons "as may be necessary to cooperate with the Maryland State Board of Shell Fish Commissioners in making a survey of and locating the natural oyster beds, bars, and rocks in the waters within the State of Maryland." The oyster laws of Maryland provide that the Maryland Shell Fish Commissioners, with the aid of such persons as may be designated by the Government, shall proceed "to have laid out, surveyed, and designated on the said charts the natural beds and bars, and shall cause to be marked and defined as accurately as practicable the limits and boundaries of the natural beds, bars, and rocks as established by said survey, and they shall take true and accurate notes of said survey in writing, and make an accurate report of said survey, setting forth such a description of landmarks as may be necessary to enable the said board, or their successors, to find and ascertain the boundary lines of the said natural oyster beds, bars, and rocks, as shown by a delineation on the maps and charts." The oyster laws of Maryland also provide in another section that there shall "be made a true and accurate survey of the natural oyster beds, bars, and rocks * * * with reference to fixed and permanent objects on the shore, giving courses and distances, to be fully described and set out in a written report of said survey."

Under the provisions of the laws quoted above the State of Maryland, in cooperation with the Department of Commerce and Labor, must define the boundaries of the natural oyster bars "as accurately as practicable" and also "with reference to fixed and permanent objects on the shore, giving courses and distances." The requirement of "as accurately as practicable" is easily fulfilled by definition of the location of the corners of the oyster bars by latitude and longitude. In fact, this method is probably the most satisfactory and accurate one that could be used for all purposes of legal definition or for relocation of the oyster-bar boundaries by competent engineers. Therefore the additional requirement of "giving courses and distances" is superfluous and is only fulfilled in the published definitions on account of the specific provisions of the law making it compulsory. This part of the description of boundaries has involved an immense amount of extra computations in order to prevent technical discrepancies between the latitude and longitude of a corner of an oyster bar and its distance and bearing from objects on shore of known latitude and longitude without adding anything to the accuracy and very little to the convenience of practical use of the descriptions of the oyster-bar boundaries.

As provided by law the boundaries of the oyster bars are all straight lines, but in the work already completed they have inclosed areas of all shapes from triangles to

complicated 14-sided figures, and of all sizes from 4 acres to 7,548 acres. The sizes have varied in length from 93 to 7,529 yards, and in some cases the corners of the boundaries have been practically at the triangulation stations from which they are located, while in other instances they were over 13,600 yards from the landmarks most available for the purpose of fixing their position.

The varied characteristics of the legal boundaries of the oyster bars indicated by the above statement, together with the complicated requirements of the law under which the survey has been made and the magnitude of the work with the consequent need of fixed and uniform methods, have made the problem of describing the boundaries one of considerable difficulty and great importance.

The boundaries of the oyster bars of Maryland, as established by the Shell Fish Commission and delineated on the Coast and Geodetic Survey charts and projections and on the leasing charts of the Commission, are technically defined and described by a method somewhat different from that used in other oyster surveys. But it is believed that the forms finally adopted will fulfill all needs of the survey for both the present and the future.

METHOD OF DESCRIBING BOUNDARIES.

The descriptions have been arranged in tabular form, thus avoiding many hundred repetitions of the same words by making one explanation of the tables sufficient for all oyster bars in each county.

Title.—At the top of each tabular form is given the legal name of the oyster bar to be described, and the one by which it is known and designated in the published oyster records and on the oyster charts. The adopted name of the oyster bar is the one used locally, as nearly as could be ascertained by the hydrographic engineer of the Commission; and when there was no local name in common use a name was selected from one of the prominent features of the vicinity that would naturally suggest the section of the waters where the oyster bar was located.

Underneath the name, in parentheses, is given the general locality of the oyster bar and the serial number of the Maryland Oyster Chart on which its legal boundaries are shown.[1]

First column.—This column, under the heading of "Corner of bar," gives the number corresponding to the corner of the boundary as shown on the charts and to the number on the buoy marking the actual corner of the bar. The numbers of the corners have been assigned by naming the southernmost point No. 1, thence proceeding in a clockwise direction around the bar. Where a corner of one oyster bar is identical with the corner of the boundaries of one or more other oyster bars, only the number of the corner of the oyster bar being described in the table is given in this column.

Second and third columns.—These two columns, under the headings of "Latitude" and "Longitude," give the geographic positions of the corners. These positions have been adopted by the Commission as the primary technical definition of the location of the corners, and should be considered as final in case of a dispute arising from discrepancies caused by other means of location. The latitudes and longitudes given in these columns are based on the United States standard datum of the Coast and Geodetic Survey, and the points thus defined can be relocated from distant triangulation stations

[1] These charts can be obtained by application to the Superintendent of the Coast and Geodetic Survey at Washington, D. C.

of the survey, even though all the landmarks and buoys originally used for their location have been destroyed by natural or other causes.

Fourth and fifth columns.—These two columns, under the general heading of "True bearing"[1] and the specific headings "Forward" and "Back," give bearings measured from a true north-and-south line. The three "Forward" bearings are from the corner of the boundary designated in the first column to the triangulation stations named on the corresponding lines in the last column, and the three "Back" bearings are from these same stations in the last column to the corresponding corner of boundary in the first column. The difference in minutes of arc between the forward and back bearings shown in some cases is actual and not accidental, and is due to the fact that the computations took into account the spheroidal shape of the earth.

Sixth column.—This column, under the heading of "Distance," gives the three computed distances in yards from the corner of the bar noted in the first column to the three triangulation stations named on the corresponding lines in the last column, and vice versa.

Seventh column.—This column, under the heading of "U. S. C. & G. S. triangulation station,"[2] gives the names of the landmarks from which were computed the corresponding "Latitude," "Longitude," "True bearing," and "Distance" of the "Corner the bar" designated in the first column. A full description of the location and markings of these triangulation stations is given in another part of this publication under the heading of "Descriptions of triangulation stations."

SURVEYING METHODS FOR RELOCATION OF BOUNDARIES.

There are a number of methods that can be used in the relocation of the actual boundaries of the natural oyster bars as technically described in this publication and delineated on the published charts of the Coast and Geodetic Survey and the leasing charts of the Shell Fish Commission.

The following brief descriptions of five of these more or less different methods assume a certain amount of experience and knowledge on the part of the engineer in the particular kind of surveying under consideration, and are only intended as reminders of ways and means that can be used.

There are two problems that are likely to present themselves to those interested in the boundaries of natural oyster bars: one, to determine whether the buoys marking the corners have been dragged or otherwise moved from their correct positions, and the other, to relocate or reestablish a buoy at the point from which it was removed. The different ways of solving these two problems partly depend upon the instruments possessed by the engineer and his assistants and partly on his training and experience.

(1) *Triangulation.*—This method is the one that will give the greatest accuracy, but on account of its requiring special data and instruments, and being an operation rarely used by engineers not engaged in geodetic surveying, it is recommended only for cases in dispute that can not be settled satisfactorily by some other method. An explanation of this class of work would be too long for a report of this sort, and those not familiar

[1] The mean magnetic variation for Kent County was 6° 15′ west of north in 1911 and increasing at the rate of 5′ yearly.

[2] Geographic positions of these triangulation stations can be obtained by application to the Superintendent of the Coast and Geodetic Survey, Washington, D. C.

with this method are referred to the publications on the subject by the Coast and Geodetic Survey.

(2) *Hydrographic.*—This method is the most simple and satisfactory one that can be adopted if the surveyor can obtain the use of the necessary instruments and assistants. It is the one best suited for the work of the engineers of the Commission in relocating corners of boundaries, as it gives results of the accuracy ordinarily required and is rapid in execution. Besides, it has the advantage of being available whenever three triangulation stations of suitable relative positions are visible from the offshore points needing relocation.

Most navigators and others familiar with the use of a sextant are well acquainted with the graphic three-point method of fixing a position on water, and only a brief description of the operation will be stated.

In the case where there is only one engineer having a single sextant, the three-point method can be used if the two angles determining the position of a buoy are first derived from the "Forward" bearings given in the tabular forms describing the boundaries of the oyster bars. For example, take "Phoenix Shoal" oyster bar, which is the first one described in this publication, and assume that "Corner No. 3," is to be examined as to its position. The angle between the two landmarks "Worton Point 2" and "Pooles Island 2" as determined from right to left from the forward bearings from this corner is 132° 04′ and the angle between "Pooles Island 2" and "Bramble" is 68° 13′. Having these two angles, the engineer proceeds to the buoy of doubtful location and measures the actual sextant angles between the landmarks for which the calculations were made. If the measured and calculated angles do not agree the buoy is not in its correct position and the boundary corner must be relocated. This is accomplished by moving the boat about until a point is reached where the angles do agree, and this point being the desired location, the buoy can be placed in its correct position.

If the engineer can obtain the use of both a sextant and a three-arm protractor ("position finder"), the availability of the hydrographic method is increased, as the use of the protractor is essential in case of the washing away or destruction of one or more of the landmarks originally used in describing the boundaries. Under these circumstances, any three landmarks of suitable relative position that are visible from the point to be located can be utilized. For example, the engineer can proceed to the buoy of doubtful position and measure the two adjacent sextant angles between the three landmarks selected. These two angles are set off on the three-arm protractor and the actual position of the buoy plotted on the chart by shifting the protractor about until the edge of each of the three arms passes through the center of the symbols on the chart marking the position of the three landmarks selected. The center of the hub of the protractor will indicate on the chart the actual position of the buoy, and if the point thus obtained does not coincide with the true position of the corner of the boundary as given on the chart, the surveyor can proceed to locate the buoy correctly by reversing the operation. This is done by placing the center point of the hub of the protractor over the corner of the boundary in question and measuring on the chart the two adjacent protractor angles between the three selected landmarks. One of the angles thus obtained is set on the sextant and the boat moved about until the two landmarks are shown by the sextant to subtend the same angle obtained from the protractor. The

second angle is then placed on the sextant and the same operation gone through, and so on, first using one angle on the sextant then the other until a point is reached where both observed sextant angles are practically identical with the protractor angles. The point thus located is the desired one and the buoy can be placed to mark the true position of the corner of the boundary in question.

If the engineer possesses two sextants and a protractor, this problem is far easier of solution, as the two angles can be set off on separate sextants and the observer can quickly find the desired point where they agree with the protractor angles by using one sextant after the other without the need of resetting either.

If there are two observers, two sextants, and a protractor, it can be seen that the best conditions for both rapid and accurate hydrographic location of a point is attained. In fact, this is the method by which the buoys at the corners of the boundaries were originally placed by the hydrographic engineer to the Commission.

(3) *Magnetic bearings from offshore.*—This method of fixing a position on water is a simple and well-known one in navigation. It is available to anyone having a boat compass and will be of special use to the State fishery force in investigating cases where buoys are supposed to have been moved for illegal purposes.

In the case where a buoy is supposed to have been moved from its true position the observer can take compass bearings to the three landmarks given in the last column of the tables opposite the boundary corner in question. These bearings are then corrected for the local declination,[1] and if the results agree with the published bearings the buoy is correctly located.

In the case where the buoy is not in its correct position, or has disappeared altogether, the desired point can be determined by maneuvering the vessel until the corrected bearings agree with the ones in the tabular descriptions, when the buoy can be anchored in its proper location.

In the case where the landmarks, for which the bearings are published, have been destroyed or washed away, any landmarks whose positions are indicated on the charts can be used. This can be done by getting their bearings directly from the chart by parallel rulers or a protractor and then applying these new bearings in the same manner as the ones published in the tables.

(4) *Magnetic bearings from shore.*—This method will be of special value to engineers having an ordinary surveyor's compass. The compass can be set over the point marking a "triangulation station" on shore, the name of which is given in the last column opposite the "corner" in question. The instrument is then set at the corresponding "back" bearing (corrected for local magnetic declination) given in the fifth column of the tables opposite the "corner" in question. The direction thus determined will give one range on which the desired point must be located. The compass can then be moved to a second triangulation station and another range located in a similar manner. The intersection of these two range lines will give the desired point; but in general it should be checked by an additional range line determined from a third station.

(5) *Horizontal angles measured at landmarks.* This process is a modification of the triangulation method, and will be useful to engineers who have a transit and desire considerable accuracy.

[1] The mean magnetic variation for Kent County is 6° 15′ west of north in 1911 and increasing at the rate of 5′ yearly.

The instrument is placed over a "triangulation station," the name of which appears in the last column of the tabular description opposite the "corner" in question. The telescope is then pointed to the landmark indicated in the "Descriptions of landmarks" as having a direction of 0° 00″ 00″ from the triangulation station being occupied by the transit. The tabular description of the boundaries is next examined and the "back" bearing of the questionable boundary "corner" from the landmark being occupied is taken out. The angle calculated from this "back" bearing and the bearing given in parentheses alongside the zero landmark in the "Descriptions of landmarks" is then set off on the transit and a range line established on which the desired point must be located. A similar process is then carried on at a second station, and so on until the position of the buoy is satisfactorily fixed.

BOUNDARIES OF NATURAL OYSTER BARS.

PHOENIX SHOAL.

(*Chesapeake Bay—Chart No. 28.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 17 05.86	76 12 43.96	N 30 43 E	S 30 44 W	4821	Worton Point 2.
			N 86 00 W	S 86 01 E	4792	Pooles Island 2.
			S 16 23 W	N 16 23 E	3737	Bramble.
2	39 17 09.44	76 12 52.05	N 33 37 E	S 33 38 W	4830	Worton Point 2.
			N 87 17 W	S 87 18 E	4574	Pooles Island 2.
			S 12 48 W	N 12 48 E	3800	Bramble.
3	39 17 32.06	76 12 37.70	N 35 26 E	S 35 27 W	3964	Worton Point 2.
			S 83 22 W	N 83 20 E	4978	Pooles Island 2.
			S 15 09 W	N 15 09 E	4661	Bramble.
4	39 17 29.08	76 12 28.86	N 31 35 E	S 31 36 W	3945	Worton Point 2.
			S 85 05 W	N 85 03 E	5105	Pooles Island 2.
			S 18 23 W	N 18 22 E	4602	Bramble.

DEEP SHOAL.

(*Chesapeake Bay—Chart No. 28.*)

1	39 14 46.00	76 13 47.63	N 28 31 E	S 28 31 W	1288	Bramble.
			N 31 37 W	S 31 38 E	5935	Pooles Island 2.
			S 18 29 W	N 18 29 E	2754	Mitchells Bluff 2.
2	39 14 47.95	76 14 00.80	N 42 01 E	S 42 01 W	1435	Bramble.
			N 29 01 W	S 29 02 E	5704	Pooles Island 2.
			S 11 09 W	N 11 09 E	2729	Mitchells Bluff 2.
3	39 15 19.80	76 13 54.11	S 10 30 W	N 10 30 E	3813	Mitchells Bluff 2.
			S 89 26 E	N 89 26 W	793	Bramble.
			N 36 50 W	S 36 51 E	4895	Pooles Island 2.
4	39 15 15.75	76 13 37.10	S 17 38 W	N 17 38 E	3793	Mitchells Bluff 2.
			N 69 12 E	S 69 12 W	363	Bramble.
			N 39 54 W	S 39 55 E	5281	Pooles Island 2.

COAL LUMP.

(*Chesapeake Bay—Chart No. 28.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 14 38.93	76 14 47.98	S 16 40 E	N 16 40 W	2477	Mitchells Bluff 2.
			N 58 03 E	S 58 03 W	2591	Bramble.
			N 16 07 W	S 16 08 E	5508	Pooles Island 2.
2	39 14 39.91	76 15 05.52	S 25 57 E	N 25 56 W	2675	Mitchells Bluff 2.
			N 63 17 E	S 63 18 W	2975	Bramble.
			N 11 30 W	S 11 30 E	5366	Pooles Island 2.
3	39 15 26.40	76 15 15.75	S 19 54 E	N 19 54 W	4226	Mitchells Bluff 2.
			S 85 30 E	N 85 31 W	2935	Bramble.
			N 12 16 W	S 12 16 E	3776	Pooles Island 2.
4	39 15 22.30	76 14 41.05	S 7 51 E	N 7 50 W	3871	Mitchells Bluff 2.
			S 87 24 E	N 87 23 W	2018	Bramble.
			N 24 05 W	S 24 06 E	4195	Pooles Island 2.

GALES LUMPS.

(*Cheapeake Bay—Chart No. 28.*)

1	39 11 37.54	76 19 11.77	N 58 42 W	S 58 44 E	8263	Craighill Channel Light (Rear Range).
			S 61 08 W	N 61 04 E	9640	Seven Foot Knoll Light.
			S 31 43 E	N 31 41 W	7304	Swan Point 3.
2	39 14 19.47	76 17 12.25	N 20 44 E	S 20 45 W	6360	Pooles Island 2.
			S 83 26 W	N 83 20 E	10261	Craighill Channel Light (Rear Range).
			S 3 26 E	N 3 26 W	11697	Swan Point 3.
3	39 13 33.60	76 16 24.20	S 3 10 W	N 3 10 E	10144	Swan Point 3.
			S 87 01 E	N 87 00 W	3239	Mitchells Bluff 2.
			N 7 32 E	S 7 33 W	7561	Pooles Island 2.
4	39 12 56.97	76 17 19.57	S 5 44 E	N 5 44 W	8938	Swan Point 3.
			N 77 08 E	S 77 10 W	4797	Mitchells Bluff 2.
			N 15 38 E	S 15 39 W	9066	Pooles Island 2.
5	39 12 07.50	76 16 48.30	S 0 34 E	N 0 34 W	7227	Swan Point 3.
			N 54 43 E	S 54 45 W	4736	Mitchells Bluff 2.
			N 8 52 E	S 8 53 W	10526	Pooles Island 2.

MITCHELLS BLUFF BUOY.

(*Chesapeake Bay—Chart No. 28.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 12 46.80	76 16 23.97	N 6 12 E	S 6 12 W	9127	Pooles Island 2.
			N 80 20 W	S 80 24 E	11626	Craighill Channel Light (Rear Range).
			S 75 33 W	N 75 29 E	11841	Craighill Channel Light (Front Range).
2	39 12 58.32	76 16 28.50	N 7 15 E	S 7 15 W	8755	Pooles Island 2.
			N 82 09 W	S 82 14 E	11449	Craighill Channel Light (Rear Range).
			S 73 35 W	N 73 31 E	11829	Craighill Channel Light (Front Range).
3	39 13 11.93	76 15 50.42	N 0 45 E	S 0 45 W	8226	Pooles Island 2.
			N 84 53 W	S 84 57 E	12390	Craighill Channel Light (Rear Range).
			S 72 53 W	N 72 48 E	12918	Craighill Channel Light (Front Range).
4	39 13 00.00	76 15 45.28	N 0 11 W	S 0 11 E	8621	Pooles Island 2.
			N 83 06 W	S 83 11 E	12567	Craighill Channel Light (Rear Range).
			S 74 46 W	N 74 41 E	12936	Craighill Channel Light (Front Range).

TOLCHESTER LUMP.

(*Chesapeake Bay—Chart No. 28.*)

1	39 12 52.81	76 14 51.48	N 33 37 E	S 33 37 W	1448	Mitchells Bluff 2.
			N 9 13 W	S 9 13 E	8985	Pooles Island 2.
			N 82 48 W	S 82 54 E	13996	Craighill Channel Light (Rear Range).
2	39 12 55.41	76 15 00.00	N 42 31 E	S 42 31 W	1517	Mitchells Bluff 2.
			N 7 53 W	S 7 53 E	8865	Pooles Island 2.
			N 83 03 W	S 83 09 E	13764	Craighill Channel Light (Rear Range).
3	39 13 18.14	76 14 49.58	N 64 55 E	S 64 55 W	830	Mitchells Bluff 2.
			N 10 31 W	S 10 32 E	8153	Pooles Island 2.
			N 86 19 W	S 86 24 E	13965	Craighill Channel Light (Rear Range).
4	39 13 15.80	76 14 41.60	N 51 33 E	S 51 33 W	693	Mitchells Bluff 2.
			N 11 50 W	S 11 51 E	8270	Pooles Island 2.
			N 86 03 W	S 86 08 E	14180	Craighill Channel Light (Rear Range).

HODGES.

(*Chesapeake Bay—Chart No. 28.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 10 21.87	76 16 48.10	N 57 43 W	S 57 47 E	12807	Craighill Channel Light (Rear Range).
			S 80 15 W	N 80 10 E	12393	Seven Foot Knoll Light.
			S 1 02 E	N 1 02 W	3664	Swan Point 3.
2	39 11 00.00	76 16 53.07	N 62 34 W	S 62 38 E	12053	Craighill Channel Light (Rear Range).
			N 86 33 W	S 86 37 E	10697	Craighill Channel Light (Front Range).
			S 66 30 W	N 66 25 E	14762	Bodkin Point (Old Tower).
3	39 11 31.73	76 15 34.17	N 1 35 W	S 1 35 E	11610	Pooles Island 2.
			N 70 38 W	S 70 43 E	13532	Craighill Channel Light (Rear Range).
			S 72 32 W	N 72 27 E	14839	Seven Foot Knoll Light.
4	39 10 53.01	76 16 06.10	N 2 18 E	S 2 18 W	12922	Pooles Island 2.
			N 64 06 W	S 64 11 E	13261	Craighill Channel Light (Rear Range).
			S 76 42 W	N 76 37 E	13684	Seven Foot Knoll Light.
5	39 10 45.70	76 16 34.24	N 61 39 W	S 61 44 E	12715	Craighill Channel Light (Rear Range).
			N 84 14 W	S 84 19 E	11253	Craighill Channel Light (Front Range).
			S 68 56 W	N 68 51 E	15036	Bodkin Point (Old Tower).

SWAN POINT.

(Chesapeake Bay—Charts Nos. 28 and 29.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 05 39.09	76 16 48.20	S 23 51 E	N 24 00 W	8732	Wickes Beach.
			N 47 48 E	S 47 49 W	4158	Stevens.
			N 0 40 E	S 0 40 W	5875	Swan Point 3.
2	39 07 20.67	76 17 51.73	N 35 21 E	S 35 22 W	3002	Swan Point 3.
			N 48 44 W	S 48 47 E	12192	Craighill Channel Light (Front Range).
			N 82 50 W	S 82 54 E	12102	Bodkin Point (Old Tower).
3	39 07 25.11	76 19 00.00	N 56 55 E	S 56 57 W	4213	Swan Point 3.
			N 43 03 W	S 43 06 E	10797	Craighill Channel Light (Front Range).
			N 82 25 W	S 82 29 E	10293	Bodkin Point (Old Tower).
4	39 08 50.00	76 19 00.00	N 36 34 W	S 36 37 E	12369	Craighill Channel Light (Rear Range).
			N 55 42 W	S 55 45 E	8922	Craighill Channel Light (Front Range).
			S 81 36 W	N 81 32 E	10314	Bodkin Point (Old Tower).
5	39 10 25.76	76 17 01.90	N 57 20 W	S 57 25 E	12431	Craighill Channel Light (Rear Range).
			S 79 21 W	N 79 16 E	12059	Seven Foot Knoll Light.
			S 6 27 E	N 6 27 W	3818	Swan Point 3.
6	39 10 21.87	76 16 48.10	N 57 43 W	S 57 47 E	12807	Craighill Channel Light (Rear Range).
			S 80 15 W	N 80 10 E	12393	Seven Foot Knoll Light.
			S 1 02 E	N 1 02 W	3664	Swan Point 3.
7	39 08 24.73	76 17 29.16	N 42 06 W	S 42 10 E	14543	Craighill Channel Light (Rear Range).
			S 86 58 W	N 87 03 E	12607	Bodkin Point (Old Tower).
			S 4 15 E	N 4 15 W	10116	Love Point Light.
8	39 08 05.36	76 17 05.35	N 74 27 E	S 74 28 W	2301	Gratitude.
			N 28 53 E	S 28 53 W	1075	Swan Point 3.
			N 89 59 W	N 89 56 E	13214	Bodkin Point (Old Tower).
9	39 07 51.73	76 17 20.18	N 67 33 E	S 67 34 W	2819	Gratitude.
			N 32 58 E	S 32 59 W	1670	Swan Point 3.
			N 87 56 W	S 88 01 E	12833	Bodkin Point (Old Tower).
10	39 06 46.38	76 17 02.03	S 0 19 E	N 0 19 W	6756	Love Point Light.
			N 81 21 E	S 81 22 W	3483	Stevens.
			N 6 50 E	S 6 50 W	3631	Swan Point 3.
11	39 06 41.57	76 16 21.77	S 8 47 W	N 8 48 E	6687	Love Point Light.
			N 73 58 E	S 73 59 W	2483	Stevens.
			N 9 26 W	S 9 26 E	3819	Swan Point 3.

SWAN CREEK.

(*Swan Creek—Chart No. 28.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 09 09.48	76 15 15.10	S 42 19 W	N 42 18 E	338	Fork.
			N 57 02 W	S 57 02 E	431	Elliason.
			N 28 28 W	S 28 29 E	770	Urie.
2	39 09 10.05	76 15 25.67	S 72 32 E	N 72 31 W	480	Rail.
			N 40 11 E	S 40 11 W	408	Spike.
			N 7 45 W	S 7 45 E	664	Urie.
3	39 09 13.10	76 15 27.13	S 42 41 E	N 42 41 W	1033	Haven.
			N 55 18 E	S 55 18 W	367	Spike.
			N 25 47 E	S 25 47 W	706	Corr.
4	39 09 12.78	76 15 15.30	S 31 35 W	N 31 35 E	423	Fork.
			N 70 56 W	S 70 56 E	377	Elliason.
			N 32 37 W	S 32 37 E	671	Urie.

ROCKHALL.

(*Swan Creek—Charts Nos. 28 and 29.*)

1	39 08 53.00	76 15 02.98	N 17 48 W	S 17 48 E	453	Rail.
			N 60 41 W	S 60 42 E	626	Fork.
			S 74 00 W	N 74 00 E	1020	Orchard.
2	39 08 54.20	76 15 14.33	N 22 14 E	S 22 14 W	422	Rail.
			N 42 57 W	S 42 57 E	363	Fork.
			S 64 46 W	N 64 46 E	755	Orchard.
3	39 08 58.57	76 15 05.23	N 18 04 W	S 18 04 E	256	Rail.
			N 76 19 W	S 76 19 E	501	Fork.
			S 63 02 W	N 63 01 E	1035	Orchard.

WHITE HORSE.

(*Swan Creek—Charts Nos. 28 and 29.*)

1	39 08 44.82	76 15 18.15	N 20 12 E	S 20 12 W	754	Rail.
			N 14 11 W	S 14 11 E	600	Fork.
			S 89 28 W	N 89 28 E	583	Orchard.
2	39 08 51.58	76 15 19.85	S 86 15 E	N 86 15 W	510	Haven.
			N 16 08 W	S 16 08 E	369	Fork.
			S 66 33 W	N 66 32 E	586	Orchard.
3	39 08 54.20	76 15 14.33	N 22 14 E	S 22 14 W	422	Rail.
			N 42 57 W	S 42 57 E	363	Fork.
			S 64 46 W	N 64 46 E	755	Orchard.
4	39 08 48.40	76 15 12.32	N 76 39 E	S 76 39 W	320	Haven.
			N 33 03 W	S 33 03 E	550	Fork.
			S 80 16 W	N 80 16 E	746	Orchard.
5	39 08 47.37	76 15 15.93	N 75 02 E	S 75 02 W	420	Haven.
			N 22 29 W	S 22 29 E	537	Fork.
			S 81 53 W	N 81 53 E	647	Orchard.

THE HAVEN.

(Swan Creek—Charts Nos. 28 and 29.)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 08 38.00	76 15 02.73	N 7 57 E	S 7 57 W	429	Haven.
			N 8 48 W	S 8 48 E	946	Rail.
			N 34 12 W	S 34 12 E	982	Fork.
2	39 08 43.86	76 15 11.20	N 51 09 E	S 51 09 W	362	Haven.
			N 5 59 E	S 6 00 W	744	Rail.
			N 16 57 W	S 16 57 E	1611	Uric.
3	39 08 46.15	76 15 08.73	N 55 23 E	S 55 23 W	264	Haven.
			N 1 05 E	S 1 05 W	662	Rail.
			N 27 23 W	S 27 23 E	1149	Elliason.
4	39 08 41.23	76 15 00.77	N 1 26 E	S 1 26 W	316	Haven.
			N 40 38 W	S 40 38 E	027	Fork.
			N 64 17 W	S 64 17 E	402	Treasure.

DEEP LANDING HOLE.

(Swan Creek—Charts Nos. 28 and 29.)

1	39 08 46.24	76 15 45.56	S 71 21 W	N 71 21 E	616	Bank.
			S 9 02 E	N 9 02 W	772	Gratitude.
			N 46 13 W	S 46 13 E	588	Tavern.
2	39 08 49.37	76 15 44.33	S 63 51 W	N 63 51 E	687	Bank.
			S 5 50 E	N 5 50 W	872	Gratitude.
			N 56 35 W	S 56 35 E	548	Tavern.
3	39 08 49.39	76 15 36.27	S 33 46 W	N 33 46 E	191	Orchard.
			N 65 47 W	S 65 47 E	733	Tavern.
			N 53 05 E	S 53 05 W	921	Rail.
4	39 08 46.71	76 15 36.40	N 48 59 E	S 48 59 W	980	Rail.
			N 59 32 W	S 59 33 E	772	Tavern.
			S 75 32 W	N 75 31 E	852	Bank.

LITTLE NECK.

(Swan Creek—Charts Nos. 28 and 29.)

1	39 08 14.80	76 16 02.94	N 62 42 E	S 62 42 W	650	Gratitude.
			N 8 24 W	S 8 24 E	873	Bank.
			N 60 55 W	S 60 55 E	1282	Swan Point 3.
2	39 08 28.87	76 16 01.60	S 71 59 E	N 71 59 W	571	Gratitude.
			N 22 41 W	S 22 41 E	421	Bank.
			N 82 41 W	S 82 41 E	1165	Swan Point 3.
3	39 08 38.08	76 15 46.39	N 35 39 E	S 35 39 W	273	Orchard.
			N 82 04 W	S 82 05 E	568	Bank.
			S 16 21 E	N 16 21 W	507	Gratitude.
4	39 08 35.73	76 15 44.00	N 17 45 E	S 17 45 W	316	Orchard.
			N 75 51 W	S 75 51 E	644	Bank.
			S 11 07 E	N 11 07 W	416	Gratitude.

TAVERN CREEK.

(*Tavern Creek—Charts Nos. 28 and 29.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 08 27.51	76 16 11.76	S 80 50 E	N 80 50 W	819	Gratitude.
			N 13 29 E	S 13 29 W	447	Bank.
			N 77 40 W	S 77 40 E	909	Swan Point 3.
2	39 08 30.27	76 16 15.46	S 76 09 E	N 76 08 W	934	Gratitude.
			N 30 31 E	S 30 32 W	397	Bank.
			N 82 43 W	S 82 43 E	797	Swan Point 3.
3	39 08 40.79	76 16 02.68	S 44 37 E	N 44 37 W	812	Gratitude.
			N 77 28 E	S 77 28 W	602	Orchard.
			N 2 25 E	S 2 25 W	592	Tavern.
4	39 08 38.68	76 15 59.86	S 44 24 E	N 44 24 W	710	Gratitude.
			N 68 32 E	S 68 32 W	551	Orchard.
			N 4 15 W	S 4 15 E	664	Tavern.

WINDMILL FLATS.

(*Entrance Rockhall Harbor—Chart No. 29.*)

1	39 07 43.39	76 15 55.17	S 50 19 E	N 50 19 W	2192	Stevens.
			N 66 52 E	S 66 52 W	1344	Windmill Point.
			N 38 12 W	S 38 13 E	2140	Swan Point 3.
2	39 08 05.75	76 16 00.56	S 40 20 E	N 40 19 W	2825	Stevens.
			N 40 28 E	S 40 29 W	793	Gratitude.
			N 51 52 W	S 51 53 E	1504	Swan Point 3.
3	39 08 08.86	76 15 40.29	S 68 37 E	N 68 37 W	908	Windmill Point.
			N 2 00 W	S 2 00 E	499	Gratitude.
			N 64 21 W	S 64 22 E	1902	Swan Point 3.
4	39 07 55.20	76 15 15.66	S 19 51 E	N 19 51 W	1912	Stevens.
			N 56 43 E	S 56 43 W	237	Windmill Point.
			N 34 42 W	S 34 43 E	1167	Gratitude.

MUDDY DRAIN.

(*Entrance Rockhall Harbor—Chart No. 29.*)

1	39 07 11.20	76 15 47.38	S 78 02 E	N 78 02 W	1515	Stevens.
			N 32 35 E	S 32 36 W	1915	Windmill Point.
			N 28 55 W	S 28 55 E	3162	Swan Point 3.
2	39 07 20.43	76 16 10.52	S 73 22 E	N 73 21 W	2182	Stevens.
			N 51 32 E	S 51 33 W	2094	Windmill Point.
			N 20 33 W	S 20 33 E	2624	Swan Point 3.
3	39 08 01.67	76 16 23.83	S 50 26 E	N 50 25 W	3165	Stevens.
			N 56 40 E	S 56 40 W	1348	Gratitude.
			N 28 12 W	S 28 12 E	1210	Swan Point 3.
4	39 08 05.75	76 16 00.56	S 40 20 E	N 40 19 W	2825	Stevens.
			N 40 29 E	S 40 29 W	793	Gratitude.
			N 51 52 W	S 51 53 E	1504	Swan Point 3.

HUNTINGFIELD.

(Entrance Rockhall Harbor—Chart No. 29.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 07 03.80	76 15 28.48	S 86 16 E	N 86 15 W	988	Stevens.
			N 16 01 E	S 16 01 W	1939	Windmill Point.
			N 33 52 W	S 33 53 E	3634	Swan Point 3.
2	39 07 11.20	76 15 47.38	S 78 02 E	N 78 02 W	1515	Stevens.
			N 32 35 E	S 32 36 W	1915	Windmill Point.
			N 28 55 W	S 28 55 E	3162	Swan Point 3.
3	39 07 43.39	76 15 55.17	S 50 19 E	N 50 19 W	2192	Stevens.
			N 66 52 E	S 66 52 W	1344	Windmill Point.
			N 38 12 W	S 38 13 E	2140	Swan Point 3.
4	39 07 55.20	76 15 15.66	S 19 51 E	N 19 51 W	1912	Stevens.
			N 56 43 E	S 56 43 W	237	Windmill Point.
			N 34 42 W	S 34 43 E	1167	Gratitude.
5	39 07 45.55	76 14 58.40	N 44 34 W	S 44 35 E	2597	Bank.
			N 60 14 W	S 60 15 E	3243	Swan Point 3.
			S 7 33 E	N 7 33 W	1485	Stevens.
6	39 07 15.96	76 14 57.43	N 10 56 W	S 10 56 E	1480	Windmill Point.
			N 47 27 W	S 47 26 E	3856	Swan Point 3.
			S 22 38 W	N 22 37 E	8416	Love Point Light.

GUM SPRING.

(Entrance Chester River—Chart No. 29.)

1	39 06 18.23	76 15 01.87	N 11 00 E	S 11 00 W	1500	Stevens.
			N 30 53 W	S 30 54 E	5306	Swan Point 3.
			S 28 12 W	N 28 11 E	6605	Love Point Light.
2	39 06 34.48	76 15 26.56	N 45 20 E	S 45 20 W	1315	Stevens.
			N 9 39 E	S 9 39 W	2893	Windmill Point.
			N 27 23 W	S 27 24 E	4512	Swan Point 3.
3	39 07 01.33	76 15 09.20	N 87 45 E	S 87 45 W	479	Stevens.
			N 0 51 E	S 0 51 W	1947	Windmill Point.
			N 39 13 W	S 39 14 E	4003	Swan Point 3.

WHITE MARSH.

(Entrance Chester River—Chart No. 29.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 04 59.92	76 14 11.55	N 14 08 W	S 14 08 E	4241	Stevens.
			N 29 21 W	S 29 22 E	8253	Swan Point 3.
			S 54 25 W	N 54 24 E	5466	Love Point Light.
2	39 05 04.52	76 14 39.16	N 4 29 W	S 4 29 E	3970	Stevens.
			S 48 07 W	N 48 06 E	4996	Love Point Light.
			S 1 09 E	N 1 09 W	6822	Wickes Beach.
3	39 05 32.80	76 15 16.79	N 12 43 E	S 12 44 W	3081	Stevens.
			N 20 58 W	S 20 59 E	6518	Swan Point 3.
			S 32 28 W	N 32 27 E	5085	Love Point Light.
4	39 06 34.48	76 15 26.56	N 45 20 E	S 45 20 W	1315	Stevens.
			N 9 39 E	S 9 39 W	2893	Windmill Point.
			N 27 23 W	S 27 24 E	4512	Swan Point 3.
5	39 06 18.23	76 15 01.87	N 11 00 E	S 11 00 W	1500	Stevens.
			N 30 54 W	S 30 54 E	5306	Swan Point 3.
			S 28 12 W	N 28 11 E	6605	Love Point Light.
6	39 06 01.63	76 14 35.07	N 11 37 W	S 11 38 E	2075	Stevens.
			N 33 50 W	S 33 51 E	6157	Swan Point 3.
			S 36 02 W	N 36 00 E	6506	Love Point Light.

UNDER THE BAR.

(Entrance Chester River—Chart No. 29.)

1	39 05 32.80	76 15 16.79	N 12 43 E	S 12 44 W	3081	Stevens.
			N 20 58 W	S 20 59 E	6518	Swan Point 3.
			S 32 28 W	N 32 27 E	5085	Love Point Light.
2	39 05 57.81	76 15 50.02	S 13 04 E	N 13 04 W	8847	Wickes Beach.
			N 35 40 E	S 35 41 W	2661	Stevens.
			N 15 33 W	S 15 34 E	5442	Swan Point 3.
3	39 06 34.48	76 15 26.56	N 45 20 E	S 45 20 W	1315	Stevens.
			N 9 39 E	S 9 39 W	2893	Windmill Point.
			N 27 23 W	S 27 24 E	4512	Swan Point 3.

HICKORY THICKET.

(Entrance Chester River—Chart No. 29.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 03 06.52	76 14 54.74	N 0 43 E	S 0 43 W	7937	Stevens.
			N 79 00 W	S 79 01 E	3373	Love Point Light.
			S 10 54 E	N 10 54 W	2894	Wickes Beach.
2	39 03 35.38	76 14 49.45	N 0 20 W	S 0 20 E	6963	Stevens.
			S 84 33 W	N 84 31 E	3465	Love Point Light.
			S 6 06 E	N 6 06 W	3837	Wickes Beach.
3	39 05 04.52	76 14 39.16	N 4 29 W	S 4 29 E	3970	Stevens.
			S 48 07 W	N 48 06 E	4996	Love Point Light.
			S 1 09 E	N 1 09 W	6822	Wickes Beach.
4	39 04 59.92	76 14 11.55	N 14 08 W	S 14 08 E	4241	Stevens.
			N 29 21 W	S 29 22 E	8253	Swan Point 3.
			S 54 25 W	N 54 24 E	5466	Love Point Light.
5	39 03 44.38	76 14 28.17	N 5 08 W	S 5 09 E	6687	Stevens.
			S 81 02 W	N 81 00 E	4058	Love Point Light.
			S 2 07 W	N 2 07 E	4122	Wickes Beach.

EAST NECK BAY.

(Entrance Chester River—Chart No. 29.)

1	39 03 53.27	76 16 11.63	S 30 11 E	N 30 10 W	5112	Wickes Beach.
			N 18 25 E	S 18 26 W	6705	Stevens.
			N 5 24 W	S 5 24 E	9485	Swan Point 3.
			Thence along county boundary as delineated on Chart No. 29 to corner No. 2.			
2	39 04 15.35	76 16 34.41	S 31 33 E	N 31 31 W	6057	Wickes Beach.
			N 25 49 E	S 25 50 W	6240	Stevens.
			N 1 56 W	S 1 56 E	8703	Swan Point 3.
3	39 04 33.16	76 16 01.82	S 21 51 E	N 21 50 W	6209	Wickes Beach.
			N 20 22 E	S 20 22 W	5351	Stevens.
			N 8 05 W	S 8 05 E	8179	Swan Point 3.
4	39 04 19.08	76 15 42.07	S 18 43 E	N 18 42 W	5584	Wickes Beach.
			N 13 44 E	S 13 45 W	5653	Stevens.
			N 11 01 W	S 11 01 E	8733	Swan Point 3.

ENTRANCE LUMPS.

(*Entrance Chester River—Chart No. 29.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 03 06.52	76 14 54.74	N 0 43 E	S 0 43 W	7937	Stevens.
			N 79 00 W	S 79 01 E	3373	Love Point Light.
			S 10 54 E	N 10 54 W	2894	Wickes Beach.
2	39 03 13.74	76 15 46.03	N 10 39 E	S 10 39 W	7829	Stevens.
			N 78 28 W	S 78 29 E	2001	Love Point Light.
			S 60 10 W	N 60 08 E	4162	Amour.
3	39 03 34.90	76 15 45.98	N 11 42 E	S 11 42 W	7128	Stevens.
			S 80 55 W	N 80 54 E	1987	Love Point Light.
			S 26 31 E	N 26 30 W	4245	Wickes Beach.
4	39 03 35.38	76 14 49.45	N 0 20 W	S 0 20 E	6963	Stevens.
			S 84 33 W	N 84 31 E	3465	Love Point Light.
			S 6 06 E	N 6 06 W	3837	Wickes Beach.

WICKES BEACH.

(*Entrance Chester River—Chart No. 29.*)

1	39 01 21.86	76 15 15.70	N 57 57 E	S 57 57 W	1296	Wickes Beach
			N 33 28 W	S 33 29 E	5002	Love Point Light.
			N 77 57 W	S 77 59 E	5329	Railway Water Tank.
2	39 02 13.18	76 16 24.02	N 21 31 W	S 21 31 E	2625	Love Point Light
			S 79 43 W	N 79 42 E	3470	Railway Water Tank.
			S 10 26 W	N 10 26 E	5562	Macum.
3	39 02 29.54	76 16 03.98	N 38 14 W	S 38 15 E	2407	Love Point Light.
			S 73 27 W	N 73 26 E	4112	Railway Water Tank.
			S 14 18 W	N 14 18 E	6215	Macum.
4	39 02 29.16	76 15 19.18	N 54 30 W	S 54 31 E	3276	Love Point Light.
			S 77 16 W	N 77 14 E	5249	Railway Water Tank.
			S 24 19 W	N 24 18 E	6593	Macum.

DREDGE ROCK.

(*Lower Chester River—Chart No. 29.*)

1	39 00 43.67	76 14 46.20	S 22 10 E	N 22 09 W	4223	Muddy.
			S 83 37 E	N 83 36 W	2791	Narrows Point.
			N 9 16 E	S 9 16 W	2001	Wickes Beach.
2	39 00 52.68	76 15 19.53	S 80 27 E	N 80 26 W	3702	Narrows Point.
			N 35 39 E	S 35 39 W	2057	Wickes Beach.
			N 67 42 W	S 67 44 E	5524	Railway Water Tank
3	39 01 16.43	76 16 09.35	S 74 05 E	N 74 03 W	5159	Narrows Point.
			N 70 52 E	S 70 52 W	2656	Wickes Beach.
			N 17 12 W	S 17 12 E	4559	Love Point Light.
4	39 01 18.75	76 15 22.18	S 68 08 E	N 68 06 W	4008	Narrows Point.
			N 58 01 E	S 58 01 W	1496	Wickes Beach.
			N 31 11 W	S 31 12 E	5000	Love Point Light.

SIDE SHOAL.

(Lower Chester River—Charts Nos. 29 and 30.)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 00 34.80	76 14 02.32	S 6 55 E	N 6 55 W	3639	Muddy.
			S 89 35 E	N 89 35 W	1619	Narrows Point.
			N 20 06 W	S 20 06 E	2422	Wickes Beach.
2	39 00 59.03	76 14 11.53	N 22 02 W	S 22 02 E	1573	Wickes Beach.
			S 56 33 W	N 56 32 E	5387	Macum.
			S 8 44 E	N 8 44 W	4482	Muddy.
3	39 00 52.93	76 13 48.20	N 35 53 W	S 35 54 E	2053	Wickes Beach.
			S 61 36 W	N 61 34 E	5816	Macum.
			S 0 54 E	N 0 54 W	4225	Muddy.

MUD.

(Lower Chester River—Charts Nos. 29 and 30.)

1	39 00 10.92	76 14 17.37	S 16 33 E	N 16 33 W	2928	Muddy.
			N 68 30 E	S 68 31 W	2165	Narrows Point.
			N 8 04 W	S 8 04 E	3110	Wickes Beach.
2	39 00 43.67	76 14 46.20	S 22 10 E	N 22 09 W	4223	Muddy.
			S 83 37 E	N 83 36 W	2791	Narrows Point.
			N 9 16 E	S 9 16 W	2001	Wickes Beach.
3	39 00 55.02	76 14 34.42	S 16 38 E	N 16 38 W	4482	Muddy.
			S 74 17 E	N 74 16 W	2559	Narrows Point.
			N 0 27 E	S 0 27 W	1592	Wickes Beach.
4	39 00 34.80	76 14 02.32	S 6 55 E	N 6 55 W	3639	Muddy.
			S 89 35 E	N 89 34 W	1619	Narrows Point.
			N 20 06 W	S 20 06 E	2422	Wickes Beach.
5	39 00 23.40	76 13 40.32	S 2 30 W	N 2 30 E	3231	Muddy.
			N 70 17 E	S 70 17 W	1105	Narrows Point.
			N 27 57 W	S 27 57 E	3010	Wickes Beach.

FERRY (KENT COUNTY).

(Lower Chester River—Chart No. 29.)

1	39 00 04.45	76 14 38.00	S 28 01 E	N 28 00 W	2932	Muddy.
			N 68 25 E	S 68 26 W	2750	Narrows Point.
			N 1 51 E	S 1 51 W	3299	Wickes Beach.
	Thence along county boundary as delineated on Chart No. 29 to corner No. 2.					
2	39 00 29.37	76 15 30.72	S 38 53 E	N 38 52 W	4405	Muddy.
			N 87 30 E	S 87 32 W	3949	Narrows Point.
			N 31 17 E	S 31 18 W	2876	Wickes Beach.
3	39 00 44.20	76 15 09.62	S 29 21 E	N 29 20 W	4507	Muddy.
			S 84 27 E	N 84 26 W	3398	Narrows Point.
			N 25 37 E	S 25 37 W	2171	Wickes Beach.

BUOY ROCK.

(Lower Chester River—Charts Nos. 29 and 30.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 59 28.23	76 12 41.30	S 78 44 E	N 78 43 W	2669	Bluebeard.
			N 29 44 E	S 29 45 W	2895	Rain.
			N 12 56 W	S 12 57 E	2291	Narrows Point.
2	39 00 10.92	76 14 17.37	S 16 33 E	N 16 33 W	2928	Muddy.
			N 68 30 E	S 68 31 W	2165	Narrows Point.
			N 8 04 W	S 8 04 E	3110	Wickes Beach.
3	39 00 23.40	76 13 40.32	S 2 30 W	N 2 30 E	3231	Muddy.
			N 70 17 E	S 70 17 W	1105	Narrows Point.
			N 27 57 W	S 27 57 E	3010	Wickes Beach.
4	39 00 02.44	76 13 39.18	S 67 59 E	N 67 57 W	4467	Bluebeard.
			N 43 05 E	S 43 06 W	1479	Narrows Point.
			N 23 10 W	S 23 11 E	3661	Wickes Beach.
5	38 59 54.30	76 12 29.26	S 58 40 E	N 58 39 W	2695	Bluebeard.
			N 34 24 E	S 34 25 W	1981	Rain.
			N 31 30 W	S 31 31 E	1588	Narrows Point.

HAIL CREEK.

(Lower Chester River—Chart No. 30.)

1	39 00 27.60	76 12 25.07	S 32 12 W	N 32 11 E	3982	Muddy.
			S 40 57 E	N 40 57 W	3343	Bluebeard.
			N 63 07 E	S 63 08 W	1131	Rain.
2	39 00 33.00	76 12 30.88	S 29 00 W	N 29 00 E	4061	Muddy.
			S 40 53 E	N 40 53 W	3581	Bluebeard.
			N 74 11 E	S 74 11 W	1207	Rain.
3	39 00 40.76	76 12 17.24	S 31 24 W	N 31 23 E	4467	Muddy.
			S 33 46 E	N 33 45 W	3572	Bluebeard.
			S 78 51 E	N 78 49 W	4027	Blakeford.
4	39 00 37.85	76 12 06.10	S 35 12 W	N 35 11 E	4546	Muddy.
			S 30 31 E	N 30 30 W	3332	Bluebeard.
			S 79 27 E	N 79 26 W	3720	Blakeford.

HAIL POINT.

(Lower Chester River—Chart No. 30.)

Corner of bar	Latitude	Longitude	True bearing: Forward	True bearing: Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 00 03.35	76 12 06.70	N 21 34 E	S 21 34 W	1429	Rain.
			N 53 37 W	S 53 38 E	1768	Narrows Point.
			S 45 36 W	N 45 35 E	3647	Muddy.
2	39 00 38.78	76 11 52.80	S 38 25 W	N 38 24 E	4781	Muddy.
			S 24 49 E	N 24 48 W	3198	Bluebeard.
			S 77 51 E	N 77 50 W	3384	Blakeford.
3	39 00 31.00	76 11 34.58	S 18 05 E	N 18 05 W	2777	Bluebeard.
			S 80 58 E	N 80 58 W	2863	Blakeford.
			N 40 07 E	S 40 08 W	2702	Break.
4	39 00 07.90	76 11 43.20	N 83 51 E	S 83 52 W	3072	Blakeford.
			N 4 31 W	S 4 31 E	1179	Rain.
			N 66 19 W	S 66 20 E	2230	Narrows Point.

BLACK BUOY.

(Middle Chester River—Chart No. 30.)

1	39 00 30.80	76 11 21.27	S 11 00 E	N 11 00 W	2681	Bluebeard.
			S 79 52 E	N 79 51 W	2516	Blakeford.
			N 33 52 E	S 33 52 W	2497	Break.
2	39 00 49.90	76 11 48.77	S 71 14 E	N 71 13 W	3380	Blakeford.
			N 55 57 E	S 55 58 W	2551	Break.
			N 22 19 W	S 22 19 E	2491	Overton.
3	39 00 50.95	76 11 16.05	S 64 22 E	N 64 21 W	2595	Blakeford.
			N 41 58 E	S 41 59 W	1874	Break.
			N 38 31 W	S 38 32 E	2901	Overton.

DURDIN.

(Middle Chester River—Chart No. 30.)

1	39 00 59.82	76 11 16.15	S 54 26 W	N 54 26 E	990	Rain.
			S 58 45 E	N 58 44 W	2741	Blakeford.
			N 48 56 E	S 48 57 W	1666	Break.
2	39 01 13.87	76 12 12.17	N 32 32 E	S 32 32 W	1245	Rain.
			N 77 12 E	S 77 13 W	2800	Break.
			N 12 27 W	S 12 27 E	1533	Overton.
3	39 01 56.03	76 12 09.10	S 13 24 E	N 13 24 W	2540	Rain.
			S 73 11 E	N 73 10 W	2768	Break.
			N 45 38 E	S 45 39 W	2377	Fir.
4	39 02 00.58	76 11 57.00	S 5 53 E	N 5 53 W	2638	Rain.
			S 67 44 E	N 67 43 W	2519	Break.
			N 42 29 E	S 42 29 W	2045	Fir.

BELTS.

(Middle Chester River—Chart No. 30.)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 01 56.03	76 12 09.10	S 13 24 E	N 13 24 W	2540	Rain.
			S 73 11 E	N 73 10 W	2768	Break.
			N 45 38 E	S 45 39 W	2377	Fir.
2	39 02 30.78	76 12 29.40	S 58 13 E	N 58 12 W	3745	Break.
			N 77 37 E	S 77 38 W	2287	Fir.
			N 1 24 W	S 1 24 E.	1920	Bay Bush Point.
3	39 02 41.53	76 12 18.36	S 51 05 E	N 51 04 W	3718	Break.
			N 86 14 E	S 86 15 W	1948	Fir.
			N 12 13 W	S 12 13 E	1593	Bay Bush Point.
4	39 03 04.03	76 12 29.33	S 3 07 E	N 3 07 W	2221	Overton.
			S 74 13 E	N 74 12 W	2320	Fir.
			N 75 41 E	S 75 42 W	2969	Gordon.
5	39 03 02.02	76 12 10.78	S 9 41 W	N 9 41 E	2182	Overton.
			S 72 08 E	N 72 08 W	1836	Fir.
			N 71 26 E	S 71 27 W	2520	Gordon.
6	39 02 30.33	76 12 16.98	S 55 34 E	N 55 33 W	3462	Break.
			N 75 09 E	S 75 10 W	1973	Fir.
			N 10 55 W	S 10 55 E	1971	Bay Bush Point.
7	39 02 00.58	76 11 57.00	S 5 53 E	N 5 53 W	2638	Rain.
			S 67 44 E	N 67 43 W	2519	Break.
			N 42 29 E	S 42 29 W	2045	Fir.

PINEY POINT (KENT COUNTY).

(Middle Chester River—Chart No. 30.)

1	39 02 00.00	76 11 41.20	S 63 58 E	N 63 58 W	2131	Break.
			N 32 18 E	S 32 18 W	1808	Fir.
			S 87 04 W	N 87 04 E	1147	Overton.
2	39 02 46.62	76 12 10.62	S 12 50 W	N 12 50 E	1673	Overton.
			S 88 33 E	N 88 33 W	1740	Fir.
			N 61 00 E	S 61 01 W	2726	Gordon.
3	39 03 18.25	76 11 43.76	S 21 47 W	N 21 46 E	2905	Overton.
			S 42 56 E	N 42 56 W	1517	Fir.
			N 81 22 E	S 81 23 W	1697	Gordon.

Thence along county boundary as delineated on Chart No. 30 to corner No. 1.

BAY BUSH POINT.

(Middle Chester River—Chart No. 30.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 03 02.02	76 12 10.78	S 9 41 W	N 9 41 E	2182	Overton.
			S 72 08 E	N 72 08 W	1836	Fir.
			N 71 26 E	S 71 27 W	2520	Gordon.
2	39 03 04.03	76 12 29.33	S 3 07 E	N 3 07 W	2221	Overton.
			S 74 13 E	N 74 12 W	2320	Fir.
			N 75 41 E	S 75 42 W	2969	Gordon.
3	39 03 15.63	76 12 22.55	S 1 16 W	N 1 16 E	2609	Overton.
			S 63 32 E	N 63 31 W	2293	Fir.
			N 82 45 E	S 82 46 W	2720	Gordon.
4	39 03 58.35	76 12 27.02	S 6 03 W	N 6 03 E	1039	Bay Bush Point.
			S 68 42 E	N 68 41 W	3022	Gordon.
			S 88 28 E	N 88 26 W	4609	Reeds.
5	39 03 52.40	76 12 01.00	S 43 37 W	N 43 37 E	1150	Bay Bush Point.
			S 67 11 E	N 67 10 W	2312	Gordon.
			N 88 53 E	S 88 54 W	3925	Reeds.

BLUFF POINT.

(Middle Chester River—Chart No. 30.)

1	39 03 52.40	76 12 01.00	S 43 37 W	N 43 37 E	1150	Bay Bush Point.
			S 67 11 E	N 67 10 W	2312	Gordon.
			N 88 53 E	S 88 54 W	3925	Reeds.
2	39 03 58.35	76 12 27.02	S 6 03 W	N 6 03 E	1039	Bay Bush Point.
			S 68 42 E	N 68 41 W	3022	Gordon.
			S 88 28 E	N 88 26 W	4609	Reeds.
3	39 04 17.59	76 11 58.20	S 27 16 W	N 27 16 E	1892	Bay Bush Point.
			S 49 41 E	N 49 40 W	2699	Gordon.
			S 78 39 E	N 78 38 W	3927	Reeds.
4	39 04 59.05	76 11 48.68	N 62 39 E	S 62 40 W	2994	Langford.
			N 1 49 E	S 1 49 W	924	Inn.
			N 63 47 W	S 63 48 E	694	Little Gum.
5	39 04 59.57	76 11 01.32	N 46 10 E	S 46 11 W	1962	Langford.
			N 0 05 W	S 0 05 E	1621	Deep Cove.
			N 81 12 W	S 81 13 E	1890	Little Gum.
6	39 03 57.95	76 11 42.85	S 51 15 W	N 51 15 E	1629	Bay Bush Point.
			S 56 45 E	N 56 45 W	1978	Gordon.
			S 88 10 E	N 88 09 W	3448	Reeds.

CHESTER RIVER MIDDLEGROUND.

(Middle Chester River—Chart No. 30.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 03 57.95	76 11 42.85	S 51 15 W	N 51 15 E	1629	Bay Bush Point.
			S 56 45 E	N 56 45 W	1978	Gordon.
			S 88 10 E	N 88 09 W	3448	Reeds.
2	39 04 59.57	76 11 01.32	N 46 10 E	S 46 11 W	1962	Langford.
			N 0 05 W	S 0 05 E	1621	Deep Cove.
			N 81 12 W	S 81 13 E	1890	Little Gum.
3	39 04 56.95	76 10 32.18	S 37 07 E	N 37 06 W	2633	Reeds.
			S 81 32 E	N 81 31 W	2402	Holton Point.
			N 24 10 E	S 24 11 W	1586	Langford.
4	39 04 03.60	76 11 24.16	S 55 31 W	N 55 30 E	2138	Bay Bush Point.
			S 42 22 E	N 42 22 W	1726	Gordon.
			S 84 11 E	N 84 10 W	2971	Reeds.

LIMEKILN.

(Grays Inn Creek Entrance—Chart No. 30.)

1	39 04 59.05	76 11 48.68	N 62 39 E	S 62 40 W	2994	Langford.
			N 1 49 E	S 1 49 W	924	Inn.
			N 63 47 W	S 63 48 E	694	Little Gum.
2	39 05 41.75	76 12 22.00	N 89 19 W	S 89 20 E	557	Lucy.
			S 10 20 W	N 10 20 E	535	Weeks.
			S 64 11 E	N 64 11 W	833	Tray.
3	39 05 45.80	76 12 12.40	S 80 51 W	N 80 51 E	819	Lucy.
			S 27 43 W	N 27 43 E	749	Weeks.
			S 44 54 E	N 44 54 W	705	Tray.
4	39 05 09.67	76 11 43.87	N 68 06 E	S 68 07 W	2731	Langford.
			N 9 46 W	S 9 46 E	573	Inn.
			S 86 04 W	N 86 03 E	750	Little Gum.

WILLOW BOTTOM.

(Middle Chester River—Chart No. 30.)

1	39 04 59.05	76 11 48.68	N 62 39 E	S 62 40 W	2994	Langford.
			N 1 49 E	S 1 49 W	924	Inn.
			N 63 47 W	S 63 48 E	694	Little Gum.
2	39 05 09.67	76 11 43.87	N 68 06 E	S 68 07 W	2731	Langford.
			N 9 46 W	S 9 46 E	573	Inn.
			S 86 03 W	N 86 03 E	750	Little Gum.
3	39 05 30.75	76 10 45.20	N 72 48 E	S 72 49 W	1038	Langford.
			N 36 38 W	S 36 38 E	714	Deep Cove.
			S 71 36 W	N 71 35 E	2415	Little Gum.
4	39 04 59.57	76 11 01.32	N 46 10 E	S 46 11 W	1962	Langford.
			N 0 05 W	S 0 05 E	1621	Deep Cove.
			N 81 12 W	S 81 13 E	1890	Little Gum.

NICHOLS.

(*Middle Chester River—Chart No. 30.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 04 59.43	76 11 01.28	N 46 03 E	S 46 04 W	1964	Langford.
			N 0 07 W	S 0 07 E	1632	Deep Cove.
			N 81 04 W	S 81 05 E	1892	Little Gum.
2	39 05 30.75	76 10 45.33	N 72 52 E	S 72 52 W	1041	Langford.
			N 36 25 W	S 36 25 E	712	Deep Cove.
			S 71 34 W	N 71 33 E	2411	Little Gum.
3	39 05 27.96	76 10 26.56	N 51 22 E	S 51 22 W	642	Langford.
			N 53 56 W	S 53 56 E	1133	Deep Cove.
			S 76 29 W	N 76 28 E	2861	Little Gum.

HUDSON.

(*Langford Creek—Chart No. 30.*)

1	39 05 27.96	76 10 26.56	N 51 22 E	S 51 22 W	642	Langford.
			N 53 56 W	S 53 56 E	1133	Deep Cove.
			S 76 29 W	N 76 28 E	2861	Little Gum.
2	39 05 30.75	76 10 45.33	N 72 52 E	S 72 52 W	1041	Langford.
			N 36 25 W	S 36 25 E	712	Deep Cove.
			S 71 34 W	N 71 33 E	2411	Little Gum.
3	39 05 42.00	76 10 41.32	S 85 24 E	N 85 24 W	906	Langford.
			N 44 56 E	S 44 57 W	971	Peach.
			N 69 24 W	S 69 24 E	550	Deep Cove.
4	39 05 51.55	76 10 52.10	S 71 24 E	N 71 24 W	1238	Langford.
			N 69 05 E	S 69 06 W	1024	Peach.
			N 19 31 W	S 19 31 E	551	Snub.
5	39 06 08.55	76 10 26.40	N 8 34 E	S 8 34 W	1231	Drum.
			S 86 23 W	N 86 23 E	861	Snub.
			S 52 40 W	N 52 40 E	1157	Deep Cove.

SAND THISTLE.

(*Langford Creek—Chart No. 30.*)

1	39 05 51.55	76 10 52.10	S 71 24 E	N 71 24 W	1238	Langford.
			N 69 05 E	S 69 06 W	1024	Peach.
			N 19 31 W	S 19 31 E	551	Snub.
2	39 06 25.20	76 10 43.22	S 34 07 W	N 34 07 E	744	Snub.
			S 43 12 E	N 43 12 W	1055	Peach.
			N 77 31 E	S 77 32 W	1212	Major.
3	39 06 08.55	76 10 26.40	N 8 34 E	S 8 34 W	1231	Drum.
			S 86 23 W	N 86 23 E	861	Snub.
			S 52 40 W	N 52 40 E	1157	Deep Cove.

BOATHOUSE.

(Langford Creek—Chart No. 30.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 06 08.55	76 10 26.40	N 8 34 E	S 8 34 W	1231	Drum.
			S 86 23 W	N 86 23 E	861	Snub.
			S 52 40 W	N 52 40 E	1157	Deep Cove.
2	39 06 25.20	76 10 43.22	S 34 07 W	N 34 07 E	744	Snub.
			S 43 12 E	N 43 12 W	1055	Peach.
			N 77 31 E	S 77 32 W	1212	Major.
3	39 06 29.80	76 10 19.85	S 6 42 E	N 6 42 W	931	Peach.
			N 79 23 E	S 79 23 W	579	Major.
			N 1 17 E	S 1 17 W	502	Drum.
4	39 06 39.54	76 09 58.30	N 5 53 E	S 5 53 W	978	Neck.
			N 72 41 W	S 72 42 E	581	Drum.
			S 20 04 W	N 20 04 E	1334	Peach.

DRUM POINT.

(Langford Creek—Chart No. 30.)

1	39 06 29.80	76 10 19.85	S 6 42 E	N 6 42 W	931	Peach.
			N 79 23 E	S 79 23 W	579	Major.
			N 1 17 E	S 1 17 W	502	Drum.
2	39 06 54.02	76 10 06.02	N 26 47 W	S 26 47 E	827	Davis.
			S 48 09 W	N 48 09 E	472	Drum.
			S 16 07 E	N 16 07 W	739	Major.
3	39 06 54.14	76 09 58.70	N 12 59 E	S 12 59 W	492	Neck.
			S 59 36 W	N 59 36 E	631	Drum.
			S 1 02 E	N 1 02 W	714	Major.
4	39 06 39.54	76 09 58.30	N 5 53 E	S 5 53 W	978	Neck.
			N 72 41 W	S 72 41 E	581	Drum.
			S 20 04 W	N 20 04 E	1334	Peach.

DAVIS CREEK.

(Langford Creek—Chart No. 30.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 06 54.02	76 10 06.02	N 26 47 W	S 26 47 E	827	Davis.
			S 48 09 W	N 48 09 E	472	Drum.
			S 16 07 E	N 16 07 W	739	Major.
2	39 07 23.47	76 10 23.08	S 20 59 E	N 20 59 W	1824	Major.
			S 55 51 E	N 55 50 W	908	Neck.
			N 62 23 E	S 62 24 W	1025	King.
3	39 07 23.03	76 10 15.45	S 4 37 W	N 4 37 E	1298	Drum.
			S 48 04 E	N 48 04 W	740	Neck.
			N 55 19 E	S 55 19 W	861	King.
4	39 07 11.02	76 09 59.10	N 16 30 W	S 16 30 E	997	Isle.
			N 73 24 W	S 73 25 E	579	Davis.
			S 31 00 W	N 31 00 E	1037	Drum.
5	39 06 54.14	76 09 58.70	N 12 59 E	S 12 59 W	492	Neck.
			S 59 36 W	N 59 36 E	631	Drum.
			S 1 02 E	N 1 02 W	714	Major.

ISLAND POINT.

(Langford Creek (West Fork)—Chart No. 30.)

1	39 07 29.42	76 10 04.32	N 23 33 W	S 23 33 E	365	Isle.
			S 42 31 W	N 42 31 E	618	Davis.
			S 19 59 E	N 19 59 W	756	Neck.
2	39 07 29.93	76 10 12.85	S 22 15 W	N 22 15 E	511	Davis.
			S 33 33 E	N 33 33 W	873	Neck.
			N 68 06 E	S 68 06 W	689	King.
3	39 07 40.33	76 10 06.33	S 78 40 E	N 78 40 W	477	King.
			N 14 13 W	S 14 13 E	673	Hornor.
			N 49 05 W	S 49 05 E	913	Eagle.
4	39 07 41.24	76 10 11.92	S 78 33 E	N 78 33 W	628	King.
			N 1 42 W	S 1 42 E	622	Hornor.
			N 43 45 W	S 43 46 E	785	Eagle.
5	39 07 46.05	76 10 10.35	S 63 26 E	N 63 26 W	641	King.
			N 7 24 W	S 7 24 E	463	Hornor.
			N 55 16 W	S 55 16 E	712	Eagle.
6	39 07 44.76	76 10 03.80	N 59 20 W	S 59 20 E	880	Eagle.
			S 41 15 W	N 41 15 E	237	Isle.
			S 58 48 E	N 58 47 W	469	King.

EAGLE POINT.

(*Langford Creek* (*West Fork*)—*Chart No. 30.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 07 49.80	76 10 15.76	S 60 00 E	N 60 00 W	827	King.
			N 13 56 E	S 13 56 W	342	Hornor.
			N 57 47 W	S 57 47 E	523	Eagle.
2	39 08 03.30	76 10 32.17	S 76 33 E	N 76 33 W	528	Hornor.
			N 40 03 E	S 40 03 W	383	West.
			N 17 13 W	S 17 13 E	642	Mill.
3	39 08 07.51	76 10 26.74	S 54 29 E	N 54 29 W	455	Hornor.
			N 33 48 E	S 33 48 W	182	West.
			N 35 13 W	S 35 13 E	576	Mill.
4	39 07 54.00	76 10 10.23	N 28 32 W	S 28 32 E	690	West.
			N 76 51 W	S 76 52 E	604	Eagle.
			S 1 04 E	N 1 04 W	494	Isle.

WILSONS POINT.

(*Langford Creek* (*West Fork*)—*Chart No. 30.*)

1	39 08 34.45	76 10 43.95	N 31 23 E	S 31 23 W	233	Locust.
			N 52 43 W	S 52 43 E	261	Bungay.
			S 36 43 W	N 36 43 E	598	Kinsley.
2	39 08 36.60	76 10 50.92	S 17 33 W	N 17 33 E	580	Kinsley.
			S 32 12 E	N 32 12 W	286	Nat.
			N 67 24 E	S 67 24 W	330	Locust.
3	39 08 48.27	76 10 43.35	S 32 01 W	N 32 01 E	664	Whale.
			S 4 13 W	N 4 13 E	637	Nat.
			S 21 38 E	N 21 38 W	287	Locust.
4	39 08 47.35	76 10 40.25	S 39 10 W	N 39 10 E	687	Whale.
			S 11 59 W	N 11 59 E	618	Nat.
			S 5 55 E	N 5 55 W	237	Locust.

KINGS CREEK.

(*Langford Creek* (*East Fork*)—*Chart No. 30.*)

1	39 07 32.33	76 09 21.40	N 84 11 E	S 84 11 W	463	Wann.
			N 29 48 E	S 29 48 W	287	Noth.
			N 76 07 W	S 76 07 E	734	King.
2	39 07 35.85	76 09 22.70	N 85 10 W	S 85 10 E	681	King.
			S 26 29 W	N 26 29 E	600	Corn.
			S 81 44 E	N 81 44 W	500	Wann.
3	39 07 41.33	76 09 00.75	N 33 17 E	S 33 17 W	583	Cult.
			N 15 38 W	S 15 38 E	363	Leary.
			S 82 00 W	N 82 00 E	404	Noth.
4	39 07 37.85	76 08 59.64	N 25 40 E	S 25 41 W	670	Cult.
			N 15 12 W	S 15 12 E	483	Leary.
			N 81 44 W	S 81 44 E	434	Noth.

BAILEY.

(*Langford Creek (East Fork)—Chart No. 30.*)

Corner of bar,	Latitude	Longitude	True bearing: Forward	True bearing: Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 07 46.33	76 09 03.50	N 50 55 E	S 50 55 W	505	Cult.
			N 8 01 W	S 8 01 E	183	Leary.
			S 55 42 W	N 55 42 E	397	Noth.
2	39 07 48.83	76 09 06.87	S 37 51 W	N 37 51 E	390	Noth.
			S 8 46 E	N 8 46 W	515	Wann.
			N 64 00 E	S 64 00 W	535	Cult.
3	39 08 02.92	76 08 47.82	N 51 20 E	S 51 20 W	539	Hoo.
			N 22 57 W	S 22 57 E	184	Nest.
			S 49 06 W	N 49 06 E	579	Leary.
4	39 08 00.40	76 08 44.30	N 37 55 E	S 37 55 W	535	Hoo.
			N 32 51 W	S 32 51 E	303	Nest.
			S 61 00 W	N 61 00 E	606	Leary.

PHILIPS.

(*Langford Creek (East Fork)—Chart No. 30.*)

1	39 08 09.97	76 08 43.38	N 71 58 E	S 71 58 W	320	Hoo.
			N 9 45 W	S 9 45 E	334	Woll.
			S 70 01 W	N 70 01 E	200	Nest.
2	39 08 36.04	76 08 40.31	N 28 27 W	S 28 27 E	581	Gut.
			S 45 19 W	N 45 19 E	245	Harp.
			S 44 45 E	N 44 44 W	505	Ide.
3	39 08 35.95	76 08 35.33	N 66 59 W	S 67 00 E	959	Clay.
			S 60 59 W	N 60 59 E	349	Harp.
			S 32 17 E	N 32 17 W	421	Ide.
4	39 08 10.16	76 08 37.42	N 57 54 E	S 57 54 W	175	Hoo.
			N 33 29 W	S 33 29 E	386	Woll.
			S 77 45 W	N 77 45 E	353	Nest.

WARE.

(*Langford Creek (East Fork)—Chart No. 30.*

1	39 08 59.38	76 08 54.90	N 73 39 W	S 73 39 E	316	Lovely.
			S 41 34 W	N 41 34 E	556	Clay.
			S 12 19 E	N 12 19 W	982	Harp.
2	39 09 01.97	76 09 00.33	N 89 24 W	S 89 24 E	161	Lovely.
			S 24 11 W	N 24 11 E	551	Clay.
			S 18 35 E	N 18 35 W	1105	Harp.
3	39 09 08.03	76 08 55.65	S 54 28 W	N 54 28 E	348	Lovely.
			S 26 15 W	N 26 15 E	788	Clay.
			S 10 23 E	N 10 22 W	1272	Harp.
4	39 09 05.60	76 08 50.16	S 74 15 W	N 74 15 E	445	Lovely.
			S 38 15 W	N 38 15 E	796	Clay.
			S 4 09 E	N 4 09 W	1172	Harp.

EBB POINT.

(*Middle Chester River—Chart No. 30.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 05 33.00	76 09 47.26	S 37 17 E	N 37 17 W	1973	Holton Point.
			N 85 37 E	S 85 38 W	1721	Spaniard Point 2 Upper.
			N 46 26 E	S 46 26 W	2297	Brown.
2	39 06 13.72	76 09 28.55	S 13 26 E	N 13 26 W	3025	Holton Point.
			S 44 37 E	N 44 36 W	1744	Spaniard Point 2 Upper.
			N 79 51 E	S 79 52 W	1191	Brown.
3	39 06 00.20	76 09 10.92	S 5 30 E	N 5 30 W	2498	Holton Point.
			S 44 06 E	N 44 06 W	1095	Spaniard Point 2 Upper.
			N 46 49 E	S 46 49 W	973	Brown.
4	39 05 35.30	76 09 32.67	S 26 14 E	N 26 14 W	1835	Holton Point.
			N 87 41 E	S 87 41 W	1334	Spaniard Point 2 Upper.
			N 40 23 E	S 40 24 W	1976	Brown.

CLIFF.

(*Middle Chester River—Chart No. 30.*)

1	39 06 00.20	76 09 10.92	S 5 30 E	N 5 30 W	2498	Holton Point.
			S 44 06 E	N 44 06 W	1095	Spaniard Point 2 Upper.
			N 46 49 E	S 46 49 W	973	Brown.
2	39 06 13.72	76 09 28.55	S 13 26 E	N 13 26 W	3025	Holton Point.
			S 44 37 E	N 44 36 W	1744	Spaniard Point 2 Upper.
			N 79 51 E	S 79 52 W	1191	Brown.
3	39 06 12.68	76 08 40.08	S 2 19 W	N 2 19 E	1208	Spaniard Point 2 Upper.
			S 51 34 E	N 51 33 W	953	Evans.
			N 30 40 E	S 30 40 W	517	Stratton.
4	39 06 21.95	76 08 23.98	N 50 18 W	S 50 18 E	207	Stratton.
			S 82 38 W	N 82 38 E	529	Brown.
			S 19 39 E	N 19 39 W	960	Evans.
5	39 06 12.56	76 08 11.72	N 67 34 E	S 67 35 W	1771	Deep Point 2.
			N 47 00 W	S 47 01 E	658	Stratton.
			N 73 37 W	S 73 37 E	883	Brown.

COMMEGYS BIGHT.

(Middle Chester River—Chart No. 30.)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 06 12.56	76 08 11.72	N 67 34 E	S 67 35 W	1771	Deep Point 2.
			N 47 00 W	S 47 01 E	658	Stratton.
			N 73 37 W	S 73 37 E	883	Brown.
2	39 06 21.95	76 08 23.98	N 50 18 W	S 50 18 E	207	Stratton.
			S 82 38 W	N 82 38 E	529	Brown.
			S 19 39 E	N 19 39 W	960	Evans.
3	39 06 38.73	76 08 14.70	S 42 54 W	N 42 54 E	592	Stratton.
			S 3 05 E	N 3 05 W	1473	Evans.
			S 83 07 E	N 83 06 W	1727	Deep Point 2.
4	39 06 25.00	76 07 12.53	S 11 25 W	N 11 25 E	1258	Chester.
			S 80 30 E	N 80 30 W	681	Corpse.
			N 17 33 E	S 17 33 W	269	Deep Point 2.

SHEEP (KENT COUNTY).

(Middle Chester River—Chart No. 30.)

1	39 06 23.28	76 07 08.81	S 16 26 W	N 16 26 E	1225	Chester.
			S 84 36 E	N 84 36 W	576	Corpse.
			N 3 04 W	S 3 04 E	314	Deep Point 2.
2	39 06 36.86	76 06 50.13	S 9 12 E	N 9 12 W	520	Corpse.
			N 65 54 E	S 65 54 W	820	Indian.
			N 19 52 E	S 19 52 W	851	Thorn.
3	39 06 34.74	76 06 47.60	S 2 09 E	N 2 09 W	441	Corpse.
			N 59 13 E	S 59 13 W	794	Indian.
			N 14 19 E	S 14 20 W	900	Thorn.

DEEP POINT.

(Middle Chester River—Chart No. 30.)

1	39 06 41.60	76 06 52.05	S 11 14 E	N 11 14 W	685	Corpse.
			N 77 39 E	S 77 39 W	818	Indian.
			N 27 56 E	S 27 56 W	725	Thorn.
2	39 06 43.87	76 06 57.40	S 20 06 E	N 20 06 W	707	Corpse.
			N 84 01 E	S 84 01 W	945	Indian.
			N 40 25 E	S 40 26 W	740	Thorn.
3	39 07 04.49	76 06 29.43	S 62 38 W	N 62 38 E	287	Thorn.
			S 18 56 E	N 18 56 W	631	Indian.
			N 82 48 E	S 82 48 W	883	Ashland.

SHIPPEN CREEK.

(*Middle Chester River—Chart No. 30.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 07 13.72	76 06 14.53	S 55 34 W	N 55 34 E	784	Thorn.
			S 67 29 E	N 67 29 W	524	Ashland.
			N 65 45 E	S 65 46 W	1386	Burns.
2	39 07 15.47	76 06 17.35	S 48 44 W	N 48 44 E	763	Thorn.
			S 65 03 E	N 65 02 W	616	Ashland.
			N 69 07 E	S 69 08 W	1433	Burns.
3	39 07 27.58	76 06 05.95	S 21 09 E	N 21 09 W	716	Ashland.
			N 84 24 E	S 84 24 W	1043	Burns.
			N 35 47 E	S 35 47 W	952	Oyster.
4	39 07 25.53	76 06 02.93	S 16 39 E	N 16 39 W	626	Ashland.
			N 79 54 E	S 79 54 W	974	Burns.
			N 29 33 E	S 29 34 W	967	Oyster.

HADDAWAY.

(*Middle Chester River—Chart No. 30.*)

1	39 07 43.52	76 05 44.28	S 14 27 W	N 14 27 E	1246	Ashland.
			S 47 07 E	N 47 07 W	641	Burns.
			S 86 47 E	N 86 47 W	1156	Starkley.
2	39 07 45.08	76 05 45.80	S 12 09 W	N 12 09 E	1287	Ashland.
			S 46 12 E	N 46 11 W	705	Burns.
			S 84 23 E	N 84 23 W	1200	Starkley.
3	39 07 53.66	76 05 33.76	S 13 57 E	N 13 57 W	799	Burns.
			S 65 08 E	N 65 07 W	967	Starkley.
			N 67 09 E	S 67 09 W	819	Jarrett.
4	39 07 51.65	76 05 31.78	S 11 13 E	N 11 13 W	724	Burns.
			S 67 40 E	N 67 40 W	892	Starkley.
			N 61 14 E	S 61 14 W	803	Jarrett.

HOLLYDAY (KENT COUNTY).

(*Middle Chester River—Chart No. 30.*)

1	39 07 45.52	76 05 27.55	S 3 23 E	N 3 23 W	504	Burns.
			S 79 31 E	N 79 31 W	726	Starkley.
			N 44 58 E	S 44 59 W	839	Jarrett.
2	39 08 00.77	76 05 00.72	S 77 51 E	N 77 50 W	1072	Booker.
			S 0 50 E	N 0 50 W	646	Starkley.
			S 33 34 W	N 33 34 E	1221	Burns.
3	39 07 53.80	76 05 00.86	N 89 29 E	S 89 30 W	1051	Booker.
			N 19 07 W	S 19 07 E	333	Jarrett.
			S 84 25 W	N 84 25 E	1159	Oyster.

MELTON POINT.

(*Middle Chester River—Chart No. 30.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 08 20.56	76 04 30.15	S 79 04 E	N 79 04 W	668	Journey.
			N 18 47 E	S 18 47 W	550	Cake.
			N 57 27 W	S 57 27 E	1036	Pomona.
2	39 08 31.66	76 04 45.37	S 41 09 E	N 41 09 W	617	Melton.
			N 75 46 E	S 75 46 W	595	Cake.
			N 28 21 W	S 28 21 E	1169	Taste.
3	39 08 25.78	76 04 29.37	S 64 31 E	N 64 31 W	704	Journey.
			N 24 26 E	S 24 26 W	378	Cake.
			N 66 53 W	S 66 54 E	972	Pomona.

NORTHWEST (KENT COUNTY).

(*Middle Chester River—Chart No. 30.*)

1	39 08 25.78	76 04 29.37	S 64 31 E	N 64 31 W	704	Journey.
			N 24 26 E	S 24 26 W	378	Cake.
			N 66 53 W	S 66 54 E	972	Pomona.
2	39 08 49.92	76 04 53.37	S 59 11 E	N 59 10 W	916	Cake.
			N 66 46 E	S 66 46 W	636	Bill.
			N 39 52 W	S 39 52 E	538	Taste.
3	39 08 30.13	76 04 28.43	S 53 39 E	N 53 39 W	759	Journey.
			N 33 40 E	S 33 40 W	238	Cake.
			N 75 40 W	S 75 40 E	948	Pomona.

APPENDIXES.

APPENDIX A.—LAWS RELATING TO THE COOPERATION OF THE COAST AND GEODETIC SURVEY AND BUREAU OF FISHERIES WITH THE MARYLAND SHELL FISH COMMISSION.

The work of the Coast and Geodetic Survey and of the Bureau of Fisheries, in cooperation with the Maryland Shell Fish Commission, in surveying the oyster bars, establishing permanent landmarks at triangulation stations, and preparing for publication the necessary charts and technical and legal descriptions of boundaries and landmarks shown on these charts, has been executed in compliance with a request from the governor of the State of Maryland to the Secretary of Commerce and Labor, and by the authority of the following laws of the United States and Maryland:

[Act of Congress approved May 26, 1906.]

AN ACT To authorize the Secretary of Commerce and Labor to cooperate, through the Bureau of the Coast and Geodetic Survey and the Bureau of Fisheries, with the shellfish commissioner of the State of Maryland in making surveys of the natural oyster beds, bars, and rocks in the waters within the State of Maryland.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of Commerce and Labor be, and he is hereby, authorized and directed, upon the request of the governor of the State of Maryland, to designate such officers, experts, and employees of the Bureau of the Coast and Geodetic Survey and of the Bureau of Fisheries as may be necessary to cooperate with the Maryland State board of shellfish commissioners in making a survey of and locating the natural oyster beds, bars, and rocks in the waters within the State of Maryland; and the Secretary of Commerce and Labor is hereby authorized and directed to furnish to the officers, experts, and employees of said Bureaus so detailed as aforesaid such instruments, appliances, and steam launches as may be necessary to make the survey aforesaid; and the Secretary of Commerce and Labor is hereby authorized to have made in the Bureau of the Coast and Geodetic Survey all the plats necessary to show the results of the aforesaid survey and the locations of the said natural oyster beds, bars, and rocks in the waters within the State of Maryland, and to furnish to the board of shellfish commissioners of the State of Maryland such copies as may be necessary, and for this purpose to employ, in the District of Columbia and elsewhere, such technically qualified persons as may be necessary to carry out the purpose of this act.

SEC. 2. That the Secretary of Commerce and Labor is hereby further authorized to have erected or constructed by the officers so detailed as aforesaid, while making such survey, such structures as may be necessary to mark the points of triangulation, so that the same may be used for such future work of the Coast and Geodetic Survey as the said Bureau may be hereafter required to perform in prosecuting the Government coast survey of the navigable waters of the United States located within the State of Maryland.

* * * * * * *

SEC. 4. That this act shall take effect from the date of its passage.

[Act of Congress approved June 30, 1906.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and seven, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and seven, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including the expenditures authorized under Public Act Numbered One hundred and eighty-one, approved May twenty-sixth, nineteen hundred and six, and contingent expenses incident thereto, five thousand dollars,

together with the unexpended balance under this appropriation for nineteen hundred and six and prior years which is hereby reappropriated and made available on this account for the fiscal year nineteen hundred and seven. * * *

[Act of Congress approved March 4, 1907.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and eight, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and eight, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, to be immediately available and to continue available until expended, twenty-five thousand dollars. * * *

[Act of Congress approved May 27, 1908.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and nine, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and nine, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, which expenses, including cost of plats and charts, shall not exceed fifteen thousand dollars in any one year, to be immediately available, twenty thousand dollars.

[Act of Congress approved March 4, 1909.]

AN ACT Making appropriation for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and ten, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and ten, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, which expenses, including cost of plats and charts, shall not exceed fifteen thousand dollars in any one year, to be immediately available, twenty thousand dollars.

[Act of Congress approved June 25, 1910.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and eleven, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and eleven, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, to be immediately available, fifteen thousand dollars.

[Act of Congress approved March 4, 1911.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and twelve, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and twelve, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, to be immediately available, thirteen thousand dollars. * * *

[Act of the Legislature of Maryland approved April 2, 1906.]

AN ACT To establish and promote the industry of oyster culture in Maryland, to define and mark natural oyster beds, bars and rocks lying under the waters of this State, to prescribe penalties for the infringement of the provisions of this Act, and * * *.

SECTION 1. *Be it enacted by the General Assembly of Maryland*, That the following sections be, and they are hereby, added to article 72 of the Code of Public General Laws, title "Oysters." * * *

SEC. 86. The Board of Shell Fish Commissioners shall, as soon as practicable after the passage of this Act, cause to be made a true and accurate survey of the natural oyster beds, bars and rocks of this State, said survey to be made with reference to fixed and permanent objects on the shore, giving courses and distances, to be fully described and set out in a written report of said survey, as hereinafter required. A true and accurate delineation of the same shall be made on copies of published maps and charts of the United States coast and geodetic survey, which said copies shall be filed in the office of the said commissioners in the city of Annapolis, and the said commissioners shall further cause to be delineated upon copies of the published maps and charts of the United States coast and geodetic survey, of the largest scale, one copy for each of the counties of this State in the waters of which there are natural oyster beds, bars and rocks, all natural beds, bars and rocks lying within the waters of such county, which maps shall be filed in the offices of the clerks of the Circuit Court for the respective counties wherein the grounds so designated may lie. * * *

SEC. 87. The Governor of this State is hereby requested to ask the assistance of the United States coast and geodetic survey, and of the United States Fish Commissioner, to aid in the carrying out of the provisions of the preceding section.

* * * * * * * *

SEC. 89. As soon as practicable after the first day of April, 1906, the said commissioners shall organize, and shall at once proceed, with the assistance of such person or persons as may be detailed by the United States coast and geodetic survey and the United States Fish Commissioner, to aid them in their work, and of such persons as may be appointed under the preceding section, to have laid out, surveyed and designated on the said charts, the natural beds and bars, and shall cause to be marked and defined as accurately as practicable the limits and boundaries of the natural beds, bars, and rocks as established by said survey, and they shall take true and accurate notes of said survey in writing, and make an accurate report of said survey, setting forth such a description of landmarks as may be necessary to enable the said board, or their successors, to find and ascertain the boundary lines of the said natural oyster beds, bars and rocks, as shown by a delineation on the maps and charts provided in this Act; said report shall be completed and filed in the office of the board in the city of Annapolis within ninety days after the completion of the survey of any county. Said commissioners shall cause the same to be published in pamphlet form, and transmit copies of the said to the Clerks of the Circuit court for the respective counties, where the charts have been filed or directed to be filed as hereinafter provided; the said report to be filed by the clerks of the several counties in a book kept for that purpose. And the said survey and report, when filed, subject to the right of appeal hereafter provided for in this Act, shall be taken in all of the courts of this State as conclusive evidence of the boundaries and limits of all natural oyster beds, bars and rocks, lying within the waters of the county wherein such survey and report are filed, and shall be construed to mean in all of the said courts that there are no natural oyster beds, bars or rocks lying within the waters of the counties wherein such report and survey are filed other than those embraced in the survey authorized by this Act, and that all areas of the Chesapeake Bay and its tributaries within the State of Maryland, not shown in the survey to be natural oyster beds, bars or rocks shall be construed in all the courts of the State to be barren bottoms and open for disposal by the State for the purpose of private planting or propagation of oysters thereon under the provisions of this Act; provided, that the said survey and report shall not be construed as to affect in any manner the holdings by citizens of this State in any lot which may have been appropriated or taken up under the laws of this State prior to the approval of this Act.

The law of the State of Maryland, passed March 9, 1842, authorizing officers of the United States Coast and Geodetic Survey to enter upon the lands within the State limits for the purposes of the survey, is as follows:

AN ACT Concerning the Survey of the Coast of Maryland.

SECTION 1. *Be it enacted by the General Assembly of Maryland*, That it shall and may be lawful for any person or persons employed under and by virtue of an act of the Congress of the United

States, * * * at any time hereafter to enter upon lands within this State for the purpose of exploring, surveying, triangulating, or leveling, or doing any other matter or thing which may be necessary to effect the objects of said act, and to erect any works, stations, buildings, or appendages requisite for that purpose, doing no unnecessary injury to private or other property.

SEC. 2.[1] *And be it enacted*, That in case the person or persons employed under the act of Congress aforesaid, can not agree with the owners or possessors of the land so entered upon and used as to the amount of damage done thereto by reason of the removal of fences, cutting of trees or injury to the crop or crops growing on the same, it shall and may be lawful for the said parties or either of them to apply to the chief justice for the time being or one of the associate judges of the judicial district in which such land may be situated, who shall thereupon appoint three disinterested and judicious freeholders, residents of the same judicial district, to proceed with as much despatch as possible to the examination of the matter in question, and the faithful assessment of the damages sustained by the owners or possessors aforesaid, and the said freeholders or a majority of them, having first taken and subscribed an oath or affirmation before the chief or associate justice aforesaid or other person duly authorized to administer the same, that they will well and truly examine and assess as aforesaid, and having given five days' notice to both parties of the time of their meeting, shall proceed to the spot, and then and there upon their own view and if required, upon the evidence of witnesses (to be by them sworn or affirmed and examined), shall assess the said damages, and shall afterward make report thereof and of their proceedings in writing under their hands and seals and file the same within five days thereafter in the office of the clerk of the county in which the land aforesaid is situated, subject to an appeal by either party to the county court of the said county within ten days after filing as aforesaid, and the said report so made as aforesaid if no appeal as aforesaid be taken, shall be held to be final and conclusive as between the said parties, and the amount so assessed and reported shall be paid to the said owners or possessors of the land so damaged within twenty days after the filing of said report, and the said chief or associate justice as aforesaid, shall have authority to tax and allow upon the filing of said report, such costs, fees and expenses to the said freeholders for the performance of their duty as he shall think equitable and just, which allowance shall be paid by the person or persons employed under the act of congress aforesaid, within the time last above limited, but if an appeal as aforesaid be taken, the case shall be set down for hearing at the first term of county court aforesaid, ensuing upon and after appeal, and it shall be lawful for either party immediately after the entry of such appeal, to take out summons for such witnesses as may be necessary to be examined upon the hearing aforesaid, and the said court shall have power in its discretion to award costs against which ever the final judgment shall be entered, and such appeal at the option of either party may and shall be heard before and the damage assessed by a jury of twelve men to be taken from the regular panel and elected as in other cases.

SEC. 3. *And be it enacted*, That if any person or persons shall wilfully injure or deface or remove any signal, monument or building or any appendage thereto, erected, used or constructed under and by virtue of the act of congress aforesaid, such person or persons so offending shall severally forfeit and pay the sum of fifty dollars with costs of suit to be sued for and recovered by any person who shall first prosecute the same before any justice of the peace of the county where the person so offending may reside, and shall also be liable to pay the amount of damages thereby sustained, to be recovered with costs of suit in an action on the case, in the name and for the use of the United States of America, in any court of competent jurisdiction.

APPENDIX B.—THE HAMAN OYSTER CULTURE LAW.

[Extract from Second Report of Shell Fish Commission.]

OBJECT.

"The legislature in placing chapter 711 of the acts of 1906, better known as the Haman Oyster Culture Law, upon the statute books of Maryland, had a twofold object in view:

"1. To *encourage* an industry in oyster culture upon the *barren bottoms* beneath the tidewaters of the State.

"2. To *prevent* the leasing of *natural oyster bars* for the purpose of oyster culture."

[1] Under the rulings of the Comptroller of the Treasury no damages can be collected except through the United States Court of Claims unless an agreement has been made in advance.

SURVEY.

"To make the leasing of barren bottoms possible and the leasing of natural bars impossible, provision was made for a survey of the natural bars for the purpose of accurately locating and marking the same. It was definitely provided that no barren bottoms should be leased in any part of the State until the natural bars of that region had been surveyed, charted, and marked with buoys."

Definition of a Natural Oyster Bar.

NATURAL BAR NOT DEFINED.

"The Shell Fish Commission is instructed by section 90 of the Haman Oyster Culture Law to exercise its judgment liberally in favor of the natural bars when surveying, charting and buoying them, but other than this the Commission is uninstructed in this important matter. The responsibility of defining a natural bar is placed upon the Commission."

DIVERSITY OF OPINION.

"No definition of a natural oyster bar could be formulated by any man or body of men which would meet with the approval of all parties concerned. Oystermen, as a rule, hold that all bottoms where oysters grow or have grown naturally even though now practically barren of oysters should be considered natural bars. Other citizens of the State who are not directly interested in the oyster business, but interested in the oyster industry from the standpoint of revenue, hold, as a rule, that no bottoms should be excluded from leasing for oyster culture which, by methods known to oyster culturists, may be made to yield a greater number of oysters than they now produce.

"It should be evident to every one that neither of these definitions could be adopted by the Commission as a working basis for determining which of the grounds surveyed are natural oyster bars."

THE GOLDSBOROUGH DEFINITION.

The definition of a natural oyster bar which very nearly approaches a reasonable and satisfactory compromise between the views of the subject held by *oystermen* on one hand and by *oyster culturists* on the other is that contained in an opinion rendered by Judge Charles F. Goldsborough in the circuit court for Dorchester County in the July term, 1881, in the case of William T. Windsor and George R. Todd *v.* Job T. Moore.

This definition has been adopted by the Shell Fish Commission as the basis for the determination of the status of the various oyster bottoms surveyed and is as follows:

What then is a natural bar or bed of oysters? It would be a palpable absurdity for the State to attempt to promote the propagation and growth of oysters and to encourage its citizens, by a grant of land, to engage in their culture, if the lands authorized to be taken up were only those upon which oysters do not and can not be made to grow. That there may be lands covered by water in the State where no oysters can be found, but where, if planted, they could be cultivated successfully, may be possible, but, if so, I imagine that their extent must be too limited for them to be of much practical, general advantage for the purposes of such a law as the one under discussion; but there are thousands of acres of hard and shifting sands where oysters not only are not found, but where it would be folly to plant them, and these latter it can not be supposed that the State intended to offer to give away, for the simple reason that the State could not help knowing that nobody would have them.

Upon the other hand there are large and numerous tracts where oysters of natural growth may be found in moderate numbers, but not in quantities sufficient to make it profitable to catch them, and yet where oysters may be successfully planted and propagated. In my opinion these can not be called natural bars or beds of oysters, within the meaning of the Act of Assembly, and it is just such lands as these that the State meant to allow to be taken up under the provisions of the above-mentioned section of the Act.

But there is still another class of lands where oysters grow naturally and in large quantities and to which the public are now and have been for many years in the habit of resorting with a view to earning a livelihood by catching this natural growth, and here, I think, is the true test of the whole question. Land can not be said to be a natural oyster bar or bed merely because oysters are scattered here and there upon it, and because if planted they will readily live and thrive there; but whenever the natural growth is so thick and abundant that the public resort to it for a livelihood, it is a natural oyster bar or bed and comes within the above-quoted restriction in the law, and can not be located or appropriated by any individual.

APPLICATION OF DEFINITION.

Before this definition may be of use in determining, accurately and scientifically, the status of an oyster ground, its central idea, "livelihood," must be expanded into accurately determinable factors, and these factors must be combined into a practical scheme of investigating the condition of the ground under consideration.

Stated briefly, a *livelihood* is represented by a *sum of money* obtained from the sale, at a fixed *price*, of a certain *quantity of oysters* gathered in a given *time* from an allotted *area* of ground.

Knowing the value of each of these factors it becomes possible to calculate the number of oysters an oyster ground must produce per square yard in order that oystermen may secure a livelihood by working upon it.

NOTE.—The factors into which the Commission resolved the livelihood problem, the value assigned to each factor, and the scheme devised for practical use in examining and applying the definition to oyster bottoms are given in outline in their second report under the heading of the preceding extract, and in detail in their first report on pages 32 to 69.

APPENDIX C.—SUMMARY OF THE PARTICULAR SURVEYING OPERATIONS WHICH CONSTITUTE AN "OYSTER SURVEY" AS NOW BEING CARRIED ON IN MARYLAND.

Explanation.—A brief account of the particular surveying operations which constitute an "oyster survey" as now being carried on in Maryland will assist in the interpretation of records contained in the technical part of this report, and will be of interest to many who may not understand the necessity for the great amount of work being done or its complicated character.

To those familiar with methods used in surveying and charting the characteristic features of large bodies of water there is an evident necessity for the various operations performed, especially when it is known that the boundaries of the public oyster bars and of the private lots leased for purposes of oyster culture must be surveyed and charted with the greatest practical accuracy. To others it will be sufficient to state that the actual experience gained from oyster surveys in other States has proven that in order to avoid endless dissatisfaction and litigation it is necessary to accurately locate and permanently establish oyster boundaries as is now being done in Maryland.

Triangulation survey.—Such refinement of survey work as that demanded by the conditions of an oyster survey when carried on at considerable distances offshore can only be obtained by the use of a system of triangulation as a framework or foundation. Therefore, a triangulation survey including the permanent marking of the positions of landmarks with monuments and a record of the descriptions of their locations for future recovery is a necessary operation of a complete oyster survey.

Topographic survey.—The technical records which establish the relation between the offshore oyster boundaries and triangulation landmarks are sufficient for the requirements of engineers in making resurveys, but do not supply the needs of others who are interested in the same boundaries by reason of their occupation as oystermen concerned as to the public oyster bars, or oyster culturists concerned as to the leasable bottoms. For these it is necessary to have the charts of the survey show the relation of the shore line and other topographic features to the boundaries of the public oyster bars and private oyster farms. Therefore, a topographic survey is a necessary operation of a complete oyster survey.

Hydrographic survey.—In the settlement of the important question of what is, or what is not, a natural oyster bar, and in the consideration of bottoms to be selected for purposes of oyster culture, information as to the depth of water and the character of the bottom is required. Therefore, a hydrographic survey is a necessary operation of a complete oyster survey.

Necessary foundation for an oyster survey.—Consequently, the necessary components of a satisfactory foundation for a complete oyster survey are the three classes of survey operations technically named triangulation, topography, and hydrography, or, stated in another way, the foundation of a practical oyster survey includes the surveying operations usually followed by the Coast and Geodetic Survey leading up to the preparation and publication of nautical charts.

Special surveys and investigations pertaining to oysters.—Having obtained this cartographic survey for a foundation, partly by new work and partly from records of previous work of the Government, the combined operations [1] making up an "oyster survey" are completed by superimposing on this foundation special surveys and investigations pertaining particularly to oysters or other shell fish.

[1] See Appendix D of this publication for "Statistics of results of combined operations of the Government and State."

The special surveys pertaining to oysters furnish information as to the location and outline of oyster-shell bottoms, and are carried on by the sounding boat party in addition to the usual hydrographic work.[1] This operation consists of the observation and record of the character of vibration of a wire and chain apparatus which is dragged over the bottom, the vibrations or lack of vibrations indicating the presence and quantity of shells or absence of shells.

The special oyster investigations [2] consist of the actual determination of the kind and quantity of oysters on the bottom, and such economic and biological studies of the supply of oyster food, density of water, character of the bottom, and other important matters as affect the growth of oysters. In this work the oyster investigation stations are located and buoyed by the hydrographic party while engaged in the survey of the oyster-shell limits. They are selected with the view of obtaining characteristic data which can be used for the interpretation of the recorded vibrations of the chain apparatus at all other points covered by the survey.

Preparation of results.—The actual surveying operations and oyster investigations having been completed for any one county, there still remains technical work of nearly equal magnitude to that described.[3] This work consists of the preparation of charts and technical descriptions of boundaries and landmarks for publication by the Government, the preparation of that part of the annual report of the Commission covering the special oyster surveys and investigations, the making of the leasing charts and finished projections, and finally the filing of the oyster charts and records with the courts and the Commission, thus opening a county for oyster culture.

Summary.—From the foregoing account it can be seen that a complete oyster survey properly conducted so as to answer all practical requirements of the present and permanency of results for the future is a very complicated affair, involving many lines of surveying and other scientific work, and requiring the professional services of experts in the various operations of cartographic surveying and shell-fish investigations.

[1] See pages 104 to 123 of "First Annual Report of Maryland Shell Fish Commission."

[2] See pages 30 to 67 and 129 to 199 of "First Annual Report of Maryland Shell Fish Commission."

[3] No mention is made here of the large amount of administrative work of the Commission, which is greatly complicated and increased by the effect of the oyster-survey operations on many thousands of people whose interests are more or less involved; or of the large amount of survey work involved in the survey and record of the boundaries of oyster lots leased from the State by private individuals for the purposes of oyster culture.

APPENDIX D.—STATISTICS OF RESULTS OF THE COMBINED OYSTER SURVEY OPERATIONS OF THE GOVERNMENT AND STATE [1]

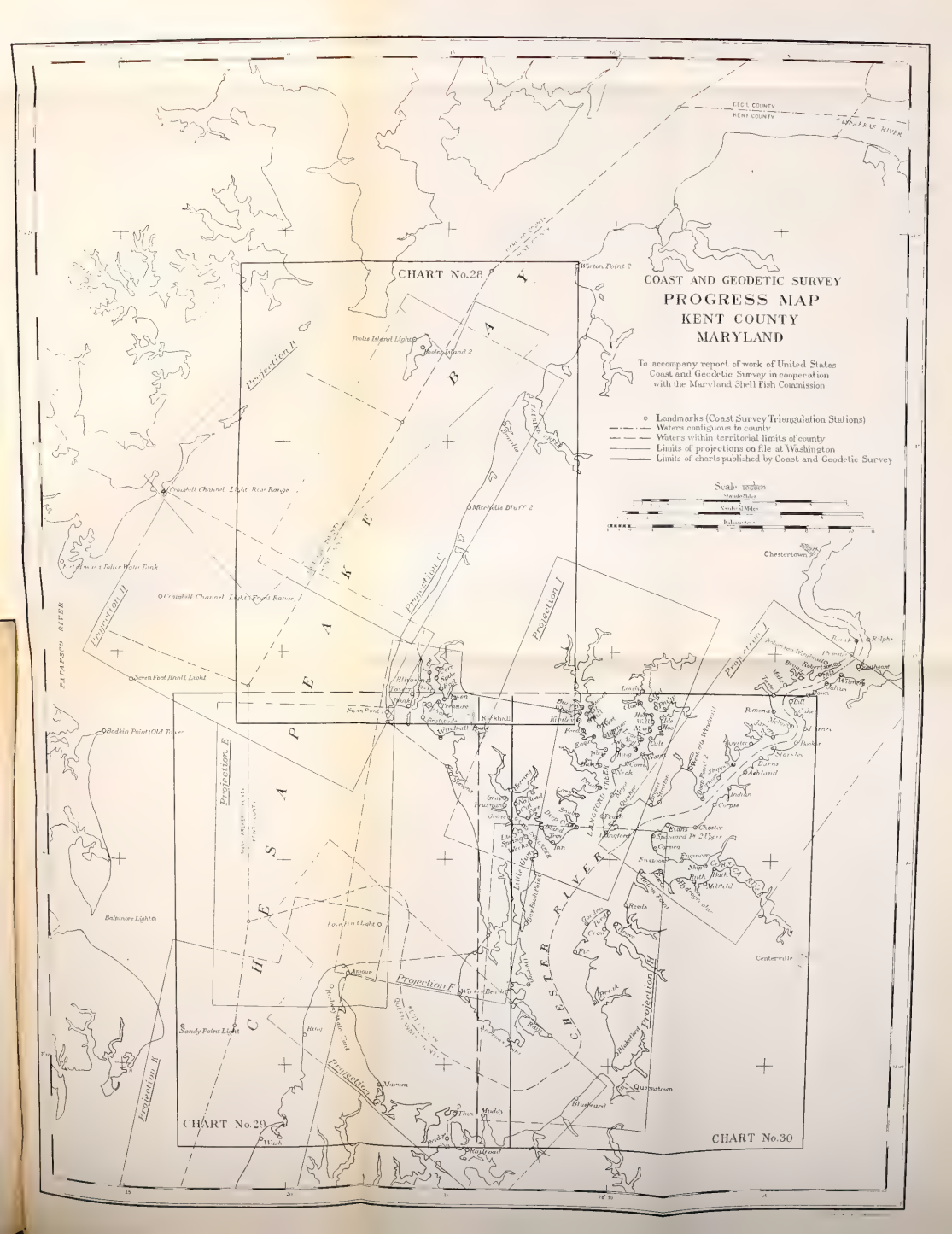
[The dates of the beginning of field work and the filing of certified charts and reports for the following counties are shown in the order named: Anne Arundel, June 29, 1906, and June 29, 1907; Somerset, May 2, 1907, and July 1, 1908; Wicomico, Aug. 27, 1907, and Dec. 1, 1908; Worcester, Nov. 7, 1907, and Apr. 12, 1909; Calvert, May 2, 1908, and Dec. 14, 1909; Charles, Aug. 18, 1908, and Jan. 27, 1911; St. Marys, May 2, 1908, and July 6, 1911; Baltimore, Apr. 14, 1909, and Aug. 10, 1911; Kent, Apr. 14, 1909, and Oct. 5, 1911.]

Operations	Anne Arundel County	Somerset County	Wicomico County	Worcester County	Calvert County	Charles County	St. Marys County	Baltimore County	Kent County	Total
Natural oyster bars surveyed and delineated	91	37	15	28	41	15	124	3	64	418
Acres of natural oyster bars	33,666	27,560	2,038	1,655	12,303	2,285	25,778	3,010	12,809	[3] 121,110
Crab bottoms surveyed and delineated		51								51
Acres of crab bottoms		32,108								32,108
Clam beds surveyed and delineated		3								3
Acres of clam beds		500								500
Boundary buoys located and planted	362	151	63	108	149	51	513	13	211	1,621
Triangulation landmarks established	123	80	30	48	78	42	248	15	147	680
Miles of shore line covered by triangulation	110	128	16	95	95	37	100	12	110	703
Square miles of water covered by triangulation	220	176	41	110	167	20	180	50	130	1,172
Miles of examination of shell bottom with chain apparatus	369	296	88	63	259	38	400	33	104	1,671
Oyster investigation stations occupied	440	679	162	147	667	113	1,472	64	1,151	4,895
Tide stations established	4	3	3	1	2	1	7	1	3	22
Number of soundings over shell bottoms	37,049	17,964	3,887	3,649	11,292	1,631	19,344	1,080	8,123	103,459
Square miles covered by soundings and chain apparatus	58	47	5	3	30	4	57	6	21	229
Projections prepared and plotted	9	13	2	5	8	3	15	4	10	69
Leasing charts prepared	13	12	2	3	5	2	10	1	4	51
Oyster charts published	4	6	2	3	5	1	8	1	3	33
Reports published	2	2	2	2	2	2	2	2	2	18
Progress maps published	2	2	2	2	2	2	2	1	1	11

[1] These statistics do not include the large amount of triangulation, topography, and hydrography resulting from previous work of the Coast and Geodetic Survey, which was utilized in the preparation of the published oyster charts and records. Work in Queen Annes, Talbot, and Dorchester Counties has been finished, but final statistics of results will not be published until these counties are opened for oyster culture.

[2] Less quantities covered by statistics of more than one county.

[3] Total area of natural oyster bars of Connecticut is 5,770 acres.


COAST AND GEODETIC SURVEY
PROGRESS MAP
KENT COUNTY
MARYLAND
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Waters contiguous to county
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Limits of projections on file at Washington
Limits of charts published by Coast and Geodetic Survey
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Statute Miles
Nautical Miles
Kilometers
CHART No.28
CHART No.29
CHART No.30
Projection A
Projection B
Projection C
Projection D
Projection E
Projection F
Projection G
Projection H
Projection I
CHESAPEAKE BAY
CHESTER RIVER
PATAPSCO RIVER
CECIL COUNTY
KENT COUNTY
Chestertown
Centreville
Queenstown
Sandy Point Light
Seven Foot Knoll Light
Bodkin Point Old Tower
Baltimore Light
Love Point Light
Craighill Channel Light Rear Range
Craighill Channel Light Front Range
Pooles Island Light
Turkey Point Light
Warton Point 2
Mooleys Island 2
Metapelia Bluff 2
Swan Point
Rock Hall
Eastern Neck Island
Kent Island
Kent Point
Love Point
Romancoke
Stevensville
Grasonville
Wye Landing
Wye Mills
Queenstown
Centreville
Millington
Galena
Worton
Rock Hall
Betterton
Rock Hall Harbor
Eastern Neck Island Light
Kent Island Narrows
Kent Point Light
Love Point Light
Romancoke Light
Stevensville Light
Grasonville Light
Wye Landing Light
Wye Mills Light
Queenstown Light
Centreville Light
Millington Light
Galena Light
Worton Light
Betterton Light
Rock Hall Harbor Light

DEPARTMENT OF COMMERCE AND LABOR
COAST AND GEODETIC SURVEY
O. H. TITTMANN, Superintendent

SURVEY OF OYSTER BARS

QUEEN ANNES COUNTY MARYLAND

DESCRIPTION OF BOUNDARIES AND LANDMARKS AND REPORT OF WORK OF UNITED STATES COAST AND GEODETIC SURVEY IN COOPERATION WITH UNITED STATES BUREAU OF FISHERIES AND MARYLAND SHELL FISH COMMISSION

By C. C. YATES
CHIEF OF COAST AND GEODETIC SURVEY PARTY
ASSISTANT, COAST AND GEODETIC SURVEY

WASHINGTON
GOVERNMENT PRINTING OFFICE
1912

LETTER OF SUBMITTAL.

DEPARTMENT OF COMMERCE AND LABOR,
COAST AND GEODETIC SURVEY,
Washington, November 29, 1911.

SIR: I have the honor to transmit herewith a report of the officer detailed from the Coast and Geodetic Survey to cooperate with the Bureau of Fisheries and the Maryland Shell Fish Commission in surveying the oyster bars of the State of Maryland, together with certain technical results which are necessary for the interpretation and use of the plats of the survey made by the Government.

This work has been done under the provisions of the act of Congress entitled "An act to authorize the Secretary of Commerce and Labor to cooperate, through the Bureau of the Coast and Geodetic Survey and the Bureau of Fisheries, with the shell fish commissioners of the State of Maryland in making surveys of the natural oyster beds, bars, and rocks in the waters within the State of Maryland," approved May 26, 1906, and of the acts of Congress making appropriations for sundry civil expenses of the Government for the fiscal years ending June 30, 1907, 1908, 1909, 1910, 1911, and 1912.

Respectfully,

O. H. TITTMANN, *Superintendent.*

To Hon. CHARLES NAGEL,
Secretary of Commerce and Labor.

CERTIFICATION.

BALTIMORE, MD., *November 28, 1911.*

The following publication is certified to contain correct technical descriptions of all boundaries and landmarks established in Queen Annes County by the Maryland Shell Fish Commission in cooperation with the United States Coast and Geodetic Survey.

C. C. YATES,
Chief of Coast and Geodetic Survey Party,
Assistant, Coast and Geodetic Survey.

BALTIMORE, MD., *November 28, 1911.*

Examined and certified to be correct.

WALTER J. MITCHELL,
CASWELL GRAVE,
BENJAMIN K. GREEN,
Maryland Shell Fish Commission.
SWEPSON EARLE,
Hydrographic Engineer.

NOTE.—Certified copies of this publication and of the charts of the natural oyster bars of Queen Annes County were filed in the office of the clerk of the circuit court of Queen Annes County and in the office of the Board of Shell Fish Commissioners on November 29, 1911.

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SURVEY OF OYSTER BARS, QUEEN ANNES COUNTY, MD.

INTRODUCTION.

PUBLICATIONS.

The preparation of publications relating to the survey of the oyster bars of Maryland has been divided between the Government and the State in accordance with the laws [1] authorizing the work and the natural division of the surveying operations [2] of the cooperating forces.

The publications prepared and issued by the Government under the direction of the Superintendent of the Coast and Geodetic Survey consist of a series of charts and a technical report for each county surveyed.[3] The charts show all legal boundaries of oyster bars within the adopted boundaries of the waters opened up for leasing with each county, and the location of all landmarks (Coast and Geodetic Survey triangulation stations) used as a foundation for the delineation of these various boundaries. The technical report gives technical and legal descriptions of all oyster bar and other boundaries, and descriptions of all landmarks shown on the charts, and includes the report of the representative of the Coast and Geodetic Survey in charge of the work of that service in cooperation with the Bureau of Fisheries and the Maryland Shell Fish Commission. These charts and technical reports are prepared and certified for file with the courts and the Commission, as required by the laws of the State, and contain all information necessary to make a permanent record of the work of the Commission and the Government for all future requirements of the courts, or for any resurveys that may become necessary.[4]

The publications prepared and issued by the State under the direction of the Shell Fish Commission consist of annual reports [5] of all the operations of the Commission performed under the provisions of the laws of Maryland,[6] including results of biological and economic oyster investigations, methods and results of the hydrographic survey of

[1] See Appendix A for laws relating to the cooperation of the Coast and Geodetic Survey and Bureau of Fisheries with the Maryland Shell Fish Commission.

[2] See Appendix C for a summary of the particular surveying operations which constitute an "oyster survey" as now being carried on in Maryland.

[3] These charts and technical reports can be obtained by application to the Superintendent of the Coast and Geodetic Survey at Washington, D. C. The publications now ready for issue are those for Anne Arundel, Somerset, Wicomico, Worcester, Calvert, Charles, St. Marys, Baltimore, Kent, and Queen Annes Counties.

[4] The technical records and charts for each county are published separately on account of the requirements of the oyster-culture laws of the State and the practical considerations which make it desirable to have each county "opened up" for oyster culture as soon as practicable after the completion of its survey. For these reasons and the fact that these reports are each arranged for distribution and use in one county only without reference to other published records, much of the text of this publication is of necessity identical with similar previous publications for other counties.

[5] These reports can be obtained by application to the Shell Fish Commission, Marine Bank Building, Baltimore, Md. They are issued annually in October, and the first, second, and third reports are now available for distribution.

[6] See Appendix B for an extract from the "Second Report of the Maryland Shell Fish Commission," giving a concise summary of the "Haman oyster culture law."

the boundaries of oyster bars and crab bottoms, the administrative report and financial statement of the Commission, information relating to oyster culture, methods of surveying and leasing of oyster lots, and much other important matter of legal and scientific value.

These two sets of publications are planned and arranged to supplement each other without unnecessary duplication, and when combined they form a complete report of operations, methods, and results of the work of both the Government and State.[1]

COOPERATION OF THE COAST AND GEODETIC SURVEY.

The work of the Coast and Geodetic Survey, as the name of the service indicates, includes a survey of the coasts of the United States made on a geodetic basis. This has involved the gradual construction of a great framework of interstate triangulation for use as a foundation for detail hydrographic and topographic surveys, from which there has been compiled and published a complete set of charts of the coasts of the United States, including all waters of Maryland where oysters grow. This existing triangulation, hydrography, and topography is essential as a foundation for a correct and practical survey of natural oyster bars; and it being one of the fundamental functions of the Coast and Geodetic Survey to furnish such data, the cooperation of the Coast and Geodetic Survey with the Bureau of Fisheries and the Maryland Shell Fish Commission is a practical and natural development of Government work leading to the conservation and increase of the supply of food.

COOPERATION OF THE BUREAU OF FISHERIES.

The Bureau of Fisheries has cooperated with the Coast and Geodetic Survey and the Maryland Shell Fish Commission principally as an adviser in matters relating to the biological and economic survey of oyster bars and the methods to be employed for that purpose.[2] A steam launch, rowing boat, and certain apparatus have also been furnished.

The primary function of the Bureau of Fisheries is to increase the productiveness of marine and fresh waters by such measures as may be best suited to the purpose, and the services rendered in connection with the survey of the oyster bars of Maryland are strictly in line with the fundamental law under which it acts. In certain States other than Maryland similar work has been conducted by the bureau acting independently, the same ends being attained at greater expense to the Government.

GENERAL STATEMENT OF WORK OF COAST AND GEODETIC SURVEY.[3]

The results obtained from the work of the Coast and Geodetic Survey in cooperation with the Bureau of Fisheries and the Maryland Shell Fish Commission need very little other summary than is indicated by the published "Charts of Natural Oyster Bars" and the index of hydrographic projections and triangulation stations shown on the county progress maps attached to each report.

[1] See Appendix D of this publication for "Statistics of results of combined operations of the Government and State."

[2] Hon. George M. Bowers, Commissioner of Fisheries, has detailed for this service Dr. H. F. Moore, Assistant, Bureau of Fisheries.

[3] For a detail statement of the very large amount of excellent oyster survey work of the Maryland Shell Fish Commission see the "Annual Reports of the Maryland Shell Fish Commission."

The triangulation has been carried on in accordance with the standard methods of the Coast and Geodetic Survey, making this work and that of the "Descriptions of Triangulation Stations" of permanent value, not only to the State of Maryland in the survey of her oyster bars, but also to the Government for any future work it may do in the regions covered by the oyster-survey operations.

The hydrographic projections and published charts are prepared with all the accuracy permitted by their large scale, especially as to the boundaries of the various shell-fish bottoms in relation to landmarks, but this accuracy of location on the charts is further added to and permanently fixed by published technical descriptions, which should minimize the probability of any future dispute as to either landmarks or boundaries.

Stated another way, and quoting from the report of the "Survey of Oyster Bars of Anne Arundel County":

> The geographic positions of the permanent landmarks and signals have been determined with the usual precision of a trigonometric survey, and their locations at all points necessary to provide ample foundation for the surveying and charting operations permitted great accuracy of definition and location for the natural oyster bar and other boundaries established. At the same time, the very important element of permanency of the positions of boundaries has been secured, as the relocation of geodetic positions can always be accomplished by a competent surveyor, even though the original landmarks and monuments have been washed away, as has been the fate of hundreds of such points established by the Coast and Geodetic Survey on the shores of the Chesapeake Bay during the last 65 years.

REPORT OF THE WORK OF THE COAST AND GEODETIC SURVEY IN QUEEN ANNES COUNTY.

INSTRUCTIONS.

The following letters, together with the laws[1] of the United States relating to the subjec , constitute the "instructions" received by the chief of the Coast and Geodetic Survey party ngaged on work in connection with the Maryland Shell Fish Commission. They are short and definite, but furnish ample authority and leeway for all legitimate development of the cooperation of the Government and the State in the survey of oyster bars. The "free hand" permitted by these orders, together with the aid and many valuable suggestions received from the officers of the survey at Washington, have proved very beneficial to the work and are greatly appreciated.

DEPARTMENT OF COMMERCE AND LABOR,
OFFICE OF THE SECRETARY,
Washington, June 2, 1906.

SIR: In reply to your letter of May 28, requesting me to designate officers of the Coast and Geodetic Survey and of the Bureau of Fisheries to cooperate with the State of Maryland in making survey of and locating the natural oyster beds, I have the honor to inform you that Mr. C. C. Yates will be designated to cooperate on the part of the Coast and Geodetic Survey as soon as Congress makes the provisions of the act effective by providing an appropriation for the purpose.

Respectfully,

LAWRENCE O. MURRAY, *Assistant Secretary.*

His Excellency Hon. EDWIN WARFIELD,
Governor of Maryland, Annapolis, Md.

DEPARTMENT OF COMMERCE AND LABOR,
COAST AND GEODETIC SURVEY,
Washington, July 3, 1906.

SIR: Upon the receipt of these instructions you will surrender the command, accounts, etc., of the steamer *Endeavor* to the Hydrographic Inspector. * * *

As soon as this transfer is completed you will enter upon the duties of Coast Survey representative on the Shell Fish Commission of Maryland.

You will consult the commissioners, prepare a program of work, and submit estimates in the usual form.

You are authorized to come to Washington for consultation from time to time as may be necessary.

* * * * * * *

Very respectfully,

O. H. TITTMANN, *Superintendent.*

Capt. C. C. YATES,
U. S. C. and G. S. Steamer Endeavor, Baltimore, Md.

ORGANIZATION AND EQUIPMENT.

The personnel and occupation of the party of the Coast and Geodetic Survey have remained practically unchanged since the beginning of the "oyster survey." Besides

[1] For these laws see Appendix A.

the chief of party, it consists of the necessary triangulators, computers, draftsmen, and temporary employees required to carry on both the surveying operations in the field and the preparation for publication of oyster charts and technical records in the office at Washington.

The equipment for the work of the party has been ample and satisfactory. The large living and office quarters furnished the Government on the Maryland Shell Fish Commission house boat *Oyster* have been very convenient for the work, besides facilitating efficient cooperation with the surveying and oyster investigation parties of the State. In addition to the accommodations on the *Oyster*, the Coast and Geodetic Survey party has had the constant use of the large steam launch *Inspector* and several other boats furnished by its own service, and the occasional use of the Bureau of Fisheries launch *Canvasback* [1] and the steamer *Governor McLane* [2] of the State fishery force.

The greater part of the equipment of instruments for the operations of both the Government and State has been furnished by the Coast and Geodetic Survey and consists of all necessary theodolites, levels, sextants, drafting instruments, hydrometers, etc., required for all field and office work.

CHRONOLOGICAL STATEMENT OF WORK.

The field work of the Coast and Geodetic Survey in Queen Annes County [3] dates from April 14, 1909, when the Maryland Shell Fish Commission house boat *Oyster* was moved from her winter quarters at Baltimore to an anchorage off Rockhall Landing in Kent County. The surveying operations carried on from this harbor covered a period of about six weeks, in which practically all triangulation was completed on the Chesapeake Bay shores of both Kent and Baltimore counties as well as a considerable part of the same class of work in the mouth of Chester River in both Queen Annes and Kent counties.

On May 26, 1909, the *Oyster* was moved from Rockhall Landing to an anchorage in the upper part of Chester River near Cliffs Landing, where she was used as the headquarters for all the oyster-surveying operations in that region for a little over a month.

On June 30, 1909, the house boat was moved to a temporary anchorage off Queenstown. This date marked the practical completion of the work in Chester River, the triangulation of which was especially notable for the month of June on account of there having been 92 triangulation stations established, these stations all being marked by monuments and signals and their locations described, besides being occupied for theodolite observations.

On July 1, 1909, the house boat *Oyster* was towed by the State steamer *Governor McLane* to Baltimore Harbor, where the following four days, which included a Sunday and a holiday, were spent in taking on coal, water, and other supplies.

On July 6, 1909, the *Governor McLane* again moved the *Oyster*, this time from Baltimore to an anchorage in Queen Annes County in the northern part of Prospect Bay and near the southern entrance to Kent Narrows. From this harbor as headquarters a few additional triangulation observations were made in Kent County, although the greater part of the work was confined to Queen Annes and Talbot counties.

[1] By courtesy of Dr. H. F. Moore, United States Bureau of Fisheries.

[2] By courtesy of Capt. James A. Turner, commanding.

[3] The field work of Queen Annes County was so intermixed with that of Kent and Talbot Counties that the chronological statement of the work in one of these counties necessarily includes a considerable part of the work of the other two counties.

On July 22, 1909, the house boat was again moved to the vicinity of Rockhall Landing to complete certain oyster-survey operations not finished when the *Oyster* was there in the spring. And it was not until August 13, 1909, when the house boat was shifted back to Eastern Bay, near the southern entrance to Kent Narrows, that the work in Queen Annes County was resumed. The *Oyster* remained at this latter anchorage as headquarters for the field work for only two weeks, during which period Governor Crothers, of Maryland, and party visited the house boat and thoroughly examined into the manner and methods by which the work was being conducted.

On August 28, 1909, the *Oyster* was towed to Haddaway Cove, in Talbot County, and work was not resumed in Queen Annes County until October 16, 1909, when the house boat was towed back to Eastern Bay and tied up at the railway wharf at Claiborne. From this latter point as headquarters the triangulation of Eastern Bay and its northern tributaries to the west of Kent Narrows was practically completed.

On October 29, 1909, the *Oyster* moved to an anchorage in a branch of lower Miles River called Tilghmans Creek and the next day completed a month's field work, which was notable as far as triangulation was concerned on account of there having been established, marked, described, and located by theodolite observations over 100 tertiary triangulation stations. Two small parties were engaged on this work during this month, one living on the house boat at Claiborne and the other on shore at Cambridge.

On December 1, 1909, the house boat *Oyster* was moved from Tilghmans Creek to an anchorage off the town of St. Michaels, and from this harbor the remaining triangulation of Wye and Miles rivers was practically completed.

On December 21, 1909, active field work of the Maryland Shell Fish Commission was closed at St. Michaels, but a triangulation signal building party continued work from quarters on shore at Oxford for two days longer.

On December 24, 1909, the field season for the Coast and Geodetic Survey parties was officially closed, the monthly employees remaining on the house boat *Oyster* at Baltimore preparing to lay up the launches and small boats for the winter, and all the officers being on leave from the 25th to 31st.

No further field work was done in Queen Annes County until March 14, 1910, when a small party was put in the field to complete certain necessary details of triangulation in Queen Annes and Talbot counties. This party first went to St. Michaels and then to Oxford, where it joined the main party on the house boat about the end of April.

The next and last field work in Queen Annes County covered only a few days' period, commencing November 7, 1911, when an officer was detailed to check up and obtain certain details relating to the description of triangulation stations required for the technical publication covering the survey of oyster bars of Queen Annes and Talbot counties.

The office work connected with the oyster survey of Queen Annes County, including compilations of geographic information and drafting necessary for the preparation for publication of the oyster charts and the technical records of that county, was continued intermittingly with the office work of other counties from the beginning of the field work in Queen Annes County to the time of filing of the certified oyster charts and technical publications in the archives of the Maryland Shell Fish Commission and with the clerk of the circuit court of Queen Annes County on November 28, 1911.

STATISTICS.[1]

Landmarks and triangulation signals erected	186
Monuments planted to mark triangulation stations	183
Triangulation stations occupied for observations of horizontal angles	178
Old triangulation stations recovered	15
New triangulation stations established	184
Total old and new triangulation stations marked and described	199
Linear miles of shore line covered by triangulation (approximate)	240
Square miles covered by triangulation (approximate)	500
Hydrographic projections prepared and completed as records of oyster boundaries	12
Triangles computed	380
Geographic positions computed	190
Corners of oyster boundaries established by computation	540
Back azimuths and distances computed from corners of boundaries to triangulation stations	1,620
Descriptions of triangulation stations prepared for publication	199
Descriptions of oyster boundaries prepared for publication	98
"Charts of Natural Oyster Bars" prepared for publication	4
Progress map prepared for publication	1

GENERAL REMARKS.

Before ending this report the representative of the Coast and Geodetic Survey wishes to renew his statement of appreciation of the courteous assistance received from various Government and State officials and others interested in the oyster industry of Maryland, especially to the following:

To his colleague from the Department of Commerce and Labor, Dr. H. F. Moore, of the Bureau of Fisheries, whose well-known scientific knowledge of all matters relating to oysters has been of great value to the work.

To Mr. Walter J. Mitchell, chairman of the Maryland Shell Fish Commission, who, by his administrative ability in carrying out the complicated requirements of the oyster laws and by his unfailing tact, has made the cooperation of the various services engaged on the work both agreeable and effective.

To Dr. Caswell Grave, secretary of the Commission, who, as editor of the Commission's annual report and commissioner in charge of the biological and economic oyster investigations, has been brought into constant contact with the Government work and aided its operations in every way.

To Mr. Benjamin K. Green, treasurer of the Commission, who has looked after the equipment and commissary of the house boat in such a way as to add greatly to the comfort and convenience of the party of the Coast and Geodetic Survey.

To Mr. Swepson Earle, hydrographic engineer to the Commission, whose knowledge of the work from former service in the Coast and Geodetic Survey has greatly facilitated his practical use of the technical data furnished by the Government.

And to the many others connected with the Commission or who as residents in the locality where the work was being carried on have greatly assisted by furnishing important information or willing services.

[1] These statistics only include field and office work directly performed by the party of the Coast and Geodetic Survey in connection with the oyster survey of this county, and do not include the many thousands of soundings and examinations of the character of the bottom made by the engineers of the commission, which are of considerable value to the Coast and Geodetic Survey as hydrographic records for future use in connection with the preparation of new editions of charts of the waters of Maryland. See Appendix D of this publication for "Statistics of results of combined operations of the Government and the State."

CHARTS AND MAPS.[1]

CHARTS OF NATURAL OYSTER BARS.

The charts of the natural oyster bars of Queen Annes County published by the Coast and Geodetic Survey from results of the surveys of the Government in cooperation with the Maryland Shell Fish Commission consist of four sheets covering all the oyster-producing waters of that county. They are published on the large scale of 1 part in 20,000 (approximately $3\frac{1}{16}$ inches to a statute mile) and are constructed on polyconic projections; and all information shown on them is based on the United States standard datum of the Coast and Geodetic Survey.

These charts show all oyster bars and other boundaries established by the Commission, and are certified for the purpose of filing in the office of the clerk of the circuit court of Queen Annes County and in the office of the Maryland Shell Fish Commission, as required by the oyster laws of Maryland.

In addition to the oyster bar and other boundaries, the charts show the location and name of all landmarks (United States Coast and Geodetic Survey triangulation stations) used in making the survey, together with the hydrography and topography [2] necessary to make the technical definitions and delineations of boundaries readily understandable both by the people engaged in the oyster industry and the general public who may become interested through leasing of barren bottoms for oyster culture.

The names of the oyster bars are those used locally, as nearly as could be ascertained by the hydrographic engineer of the Commission. When there was no local name in common use, a name was selected from one of the prominent features of the vicinity. By the use of recognized names or those that would naturally suggest certain sections of water, it is believed that much confusion will be avoided in the location on the charts of the oyster bars, especially by those not familiar with the use of maps.

The corners of the oyster bars are numbered from 1 to the total number of corners in each area under consideration. Where boundaries adjoin, making one point a corner of two or more oyster bars, these points have two or more numbers, each number corresponding to the bar in which the figure is located. The numbers of the corners correspond with the technical and legal descriptions of this publication under the heading "Boundaries of natural oyster bars."

The landmarks and oyster bars have been grouped in the "Contents" of this publication in accordance with the charts upon which they are shown. To find a particular oyster bar or landmark which is only known by name, consult the "Contents" and the desired chart and general location will be indicated. To find the name of a bar or

[1] These charts can be obtained by application to the Superintendent of the Coast and Geodetic Survey, at Washington, D. C.

[2] Much of the detail of the inshore topography was obtained from the excellent map of Queen Annes County, prepared and published by the Maryland Geological Survey under the direction of Dr. William Bullock Clark from surveys of the Maryland Geological Survey in cooperation with the United States Geological Survey.

landmark which is only known by location, consult the progress map at the end of this publication for the number of the chart on which it is to be found, and then examine the known locality on the chart for the name of the bar or landmark in question.

The contours on the charts showing the depth of water at mean low tide have been taken from the hydrographic sheets of former work of the Coast and Geodetic Survey. Four curves were selected as being the most convenient for taking off from the original hydrographic sheets and the ones of greatest value to those interested in shell fish industries. The 1-fathom contour (6 feet) and the 5-fathom curve (30 feet) correspond in a general way to the inner and outer limits of all the oyster bars surveyed. The 3-fathom contour (18 feet) furnishes the curve of about the average depth of water on the oyster bars, and the 10-fathom contour (60 feet) serves in a general way to indicate the outer limits of probable oyster culture.

The boundaries of the waters within the "territorial limits of the county" and the boundaries of the "waters contiguous to the county" opened up for the leasing with Queen Annes County are plainly indicated on the charts. A full technical description of these boundaries is given in this publication under the heading "Boundaries of county waters."

The areas in acres of the oyster bars were determined under the direction of the hydrographic engineer of the Commission by two independent planimeter measurements of the areas as delineated on the smooth projections of th Coast and Geodetic Survey. These areas are given in small figures in parentheses on the face of the chart within the boundaries of the different shell fish bottoms.

The symbols used on the charts for the different kinds of boundaries, triangulation stations, contours of depth of water, etc., require no other explanation than that given in the legend and other notes on the face of the charts.

LEASING CHARTS.

The leasing charts of Queen Annes County, like those for Anne Arundel, Somerset, Wicomico, Worcester, Calvert, Charles, St. Marys, Baltimore, and Kent counties, have been prepared under the direction of the hydrographic engineer of the Commission. They are constructed on polyconic projections on the scales of 1 part in 5,000 or 1 part in 10,000 as the needs of oyster culture may require, and the information shown on them is based on the United States standard datum of the Coast and Geodetic Survey.

These charts show all the oyster bars, crab bottoms, and clam beds and other boundaries established by the Commission, and also all boundaries of oyster lots leased for the purpose of oyster culture, thus making them comprehensive and valuable records of the results of the operations of the oyster-culture laws.

The lots leased under the provision of the "old 5-acre law" are frequently of irregular shape, but the lots leased under the provision of the new oyster laws must be of rectangular shape by the terms of that act. For this latter purpose the leasing charts have been divided by parallels of latitude and meridians of longitude into small rectangles of 1 acre or 5 acres, as may be best suited to the area under consideration, and prospective leaseholders by the rules of the Commission are compelled to select whole rectangles as far as possible.

For reasons of the present changeable nature of the number of lots leased and the large number of charts required, the leasing charts are not likely to be published for some years, but they can be seen at any time on file at the offices of the Commission, in the Marine Bank Building at Baltimore.

PROJECTIONS.

The polyconic projections [1] covering Queen Annes County waters are 12 in number and on the scale of 1 part in 10,000. They were constructed by draftsmen of the Coast and Geodetic Survey, but the sextant positions which determine the location of the legal boundaries of the oyster bars as delineated by the Shell Fish Commission were plotted by the draftsman of the Commission.

A copy of each of these projections, with all the plotted positions of triangulation stations, shore line, sextant positions, and boundaries of oyster bars, was made under the direction of the hydrographic engineer of the Commission by pricking through with a sharp needle the intersections of the projection lines and all other points as plotted on the original sheets.

These projections (in duplicate) are the original records of all oyster bar and other boundaries established by the Commission, one set being filed in the archives of the Coast and Geodetic Survey, at Washington, and the other set in the archives of the Shell Fish Commission.

PROGRESS MAPS.

The progress map to be found at the end of this publication is on a scale of 1 part in 100,000, and shows in outline the work accomplished by the United States Coast and Geodetic Survey in Queen Annes County and contiguous waters. It gives the scheme of all the charts and smooth projections constructed in connection with the survey, the location and names of all triangulation stations used as a basis for the surveying work, and the "boundaries of county waters" established by the Commission for the purpose of carrying out the laws of Maryland relating to oyster culture.

Besides indicating the amount of work done by the Coast and Geodetic Survey in connection with the work of the Shell Fish Commission, this progress map will be of special value for index purposes to engineers and others searching for the particular chart or projection covering the locality of the oyster bars or landmarks that may be under consideration.

The progress maps [2] accompanying the first and second annual reports of the Maryland Shell Fish Commission were prepared under the direction of the hydrographic engineer of the Commission. They are on the scale of 1 part in 400,000, and show the outline of the tide-water counties of Maryland, with shaded areas to indicate the waters already covered by the operations of the oyster survey.

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[1] For the scheme of these projections see the progress map at the end of this publication.

[2] These maps and reports can be obtained by application to Maryland Shell Fish Commission, Marine Bank Building, Baltimore, Md.

BOUNDARIES OF THE COUNTY WATERS.[1]

WATERS WITHIN TERRITORIAL LIMITS OF COUNTY.

The laws of Maryland relating to oyster culture provide that "no person shall be permitted, by lease, assignment, or in any other manner, to acquire a greater amount of land than 10 acres situated within the territorial limits of any of the counties, or 100 acres in any other place."

The boundary line[2] between the waters "within the territorial limits" of Queen Annes County and the waters in "any other place," as established by the Shell Fish Commission for the purpose of carrying out the oyster laws, and delineated on the "oyster" charts and the smooth projections of the Coast and Geodetic Survey, is technically described and defined as follows:

Commencing at the intersection of the State boundary line between Maryland and Delaware with the boundary line between Queen Annes County and Kent County; thence following the boundary between Queen Annes and Kent counties and down the channel boundary of the upper part of Chester River; thence continuing down the channel of Chester River following the boundary line between Kent County and Queen Annes County as laid down on "Charts Nos. 29 and 30, Natural Oyster Bars, Maryland," to a point in the mouth of Chester River defined by the intersection of this channel boundary line with a straight line across the mouth of Chester River defined at its western end by a point on Love Point on the western side of Chester River in latitude 39° 02′ 25.5″ and longitude 76° 18′ 10.0″, and defined at its eastern end by a point on the eastern side of Chester River in latitude 39° 02′ 45.3″ and longitude 76° 14′ 05.3″; thence in a straight line ending at a point situated on Love Point on the western side of Chester River defined by latitude 39° 02′ 25.5″ and longitude 76° 18′ 10.0″; thence along the mean low water line or across the mouth of all inlets less than 100 yards in width, as the case may be, of the eastern shore of Chesapeake Bay, around Bloody Point to a point situated on Kent Point on the southern extremity of Kent Island defined by latitude 38° 50′ 05.1″ and longitude 76° 22′ 06.2″; thence in a straight line ending at a point situated on Wades Point on the eastern side of the entrance of Eastern Bay, defined by latitude 38° 49′ 34.2″ and longitude 76° 18′ 04.5″ to a point on this straight line defined by its intersection with the boundary line in Eastern Bay between Queen Annes County and Talbot County as laid down on "Chart No. 31, Natural Oyster Bars, Maryland;" thence along the boundary line between Queen Annes County and Talbot County in Eastern Bay, around Tilghmans Point, up Miles River, turning between Bennett Point and Herring Island into the mouth of Wye River, and up the channel boundary line of that branch of Wye River to the south of Wye Island to the point off the eastern end of Wye Island, all as laid down on "Charts Nos. 31 and 32, Natural Oyster Bars, Maryland;" thence continuing up the channel boundary line of Wye River between Queen Annes County and Talbot County to the head of the oyster-producing waters.[3]

[1] For a complete historical and legal description of the boundaries of the counties of Maryland, the valuable publication entitled "The Counties of Maryland—Their Origin, Boundaries, and Election Districts," prepared by Dr. Edward B. Mathews and published by the Maryland Geological Survey under the direction of Dr. William Bullock Clark, Superintendent, should be consulted, as the boundaries described in this publication have been established and technically defined for the purpose of carrying out the oyster laws of the State, and may or may not be correct for other purposes.

[2] See "Charts of Natural Oyster Bars," published by the Coast and Geodetic Survey, and the progress map at the end of this publication.

[3] Latitudes and longitudes based on the United States standard datum of the United States Coast and Geodetic Survey.

WATERS CONTIGUOUS TO COUNTY.

The oyster laws of Maryland provide that a true and accurate delineation of all natural oyster bars shall be made on copies of charts of the United States Coast and Geodetic Survey, "which said copies shall be filed in the office of the said Commissioners in the city of Baltimore," and "in the office of the clerks of the circuit courts for the respective counties wherein the grounds so designated may lie."

For the purpose of carrying out the latter part of this section of the law and for the purpose of establishing the limits of the oyster-culture area to be opened up for leasing with each county surveyed, it is necessary for the Shell Fish Commission to establish a boundary line between the waters contiguous to but not within the territorial limits of each county and the waters contiguous to but not within the territorial limits of adjacent counties.

This boundary line has been delineated on the "Charts of Natural Oyster Bars," published by the Coast and Geodetic Survey, and is technically described and defined as follows:

Commencing at a point defined by the intersection of the boundary line between Queen Annes County and Kent County as laid down on "Chart No. 29, Natural Oyster Bars, Maryland," with a straight line across the mouth of Chester River, defined at its eastern end by a point on the eastern side of Chester River in latitude 39° 02′ 45.3″ and longitude 76° 14′ 05.3″, and defined at its western end by a point on Love Point on the western side of Chester River in latitude 39° 02′ 25.5″ and longitude 76° 18′ 10.0″; thence following the boundary line between Queen Annes County and Kent County, passing around and about 1 mile to the northeast of Love Point Light, as laid down on "Chart No. 29, Natural Oyster Bars, Maryland," to a point in Chesapeake Bay about 2⅝ miles east of Baltimore Light and 3⅝ miles west of Love Point Light, defined by latitude 39° 03′ 30.0″ and longitude 76° 21′ 00.0″; thence in a straight line with Chesapeake Bay to a point in Chesapeake Bay about 1¾ miles east of Sandy Point Light and defined by latitude 39° 00′ 57.2″ and longitude 76° 21′ 34.00″; thence in a straight line with Chesapeake Bay to a point in Chesapeake Bay about $1\frac{3}{16}$ miles east of Thomas Point Light, defined by latitude 38° 53′ 56.2″ and longitude 76° 24′ 50.2″; thence in a straight line with Chesapeake Bay to a point in Chesapeake Bay about 2½ miles west of Bloody Point Bar Light defined by latitude 38° 50′ 01.1″ and longitude 76° 26′ 15.0″; thence in a straight line with Chesapeake Bay to a point in Chesapeake Bay about 3½ miles southwest of Bloody Point Bar Light defined by latitude 38° 48′ 06.6″ and longitude 76° 26′ 37.1″; thence following the boundary line between Queen Annes County and Talbot County passing between Bloody Point Bar Light and Poplar Island, as laid down on "Chart No. 31, Natural Oyster Bars, Maryland," to a point defined by the intersection of this boundary line with a straight line across the entrance of Eastern Bay defined at its western end by a point situated on Kent Point on the southern extremity of Kent Island in latitude 38° 50′ 05.1″ and longitude 76° 22′ 06.2″ and defined at its eastern end by a point situated on Wades Point on the eastern side of the entrance of Eastern Bay in latitude 38° 49′ 34.2″ and longitude 76° 18′ 04.5″.[1]

[1] Latitudes and longitudes based on the United States standard datum of the United States Coast and Geodetic Survey.

LANDMARKS (U. S. COAST AND GEODETIC SURVEY TRIANGULATION STATIONS).

EXPLANATION.

The oyster laws of Maryland authorizing the survey to be made by the Shell Fish Commission provide for "an accurate report of said survey, setting forth such a description of landmarks as may be necessary to enable the said board, or their successors, to find and ascertain the boundary lines of said natural oyster beds, bars, and rocks, as shown by delineation on the maps and charts." The law of the United States authorizing the cooperation of the Department of Commerce and Labor in the survey of natural oyster bars of Maryland provides for the erection of "such structures as may be necessary to mark the points of triangulation, so that the same may be used for such future work of the Coast and Geodetic Survey as the said bureau may be hereafter required to perform in prosecuting the Government coast survey of the navigable waters of the United States located within the State of Maryland."

Under the provisions of the sections of the laws stated above, the markings and descriptions of landmarks must be sufficient for the present and future needs of both the Government and the State. With this end in view, considerable work has been expended in erecting permanent monuments at the triangulation stations and in the proper description of their location.

An effort has been made to arrange the descriptions of location and character of landmarks in a uniform and logical manner. The descriptions start with the assumption that the individual seeking a landmark has only an indefinite idea of its location. They gradually proceed from description of the general locality of a landmark to the descriptions of its immediate surroundings. This is followed by specific details of the character of the center and reference marks and a "round" of reference angles and distances which in themselves frequently contain enough information to furnish an independent and reliable location of the triangulation station.

METHOD OF DESCRIBING TRIANGULATION STATIONS.

The separate descriptions of triangulation stations should not be used without reading the following explanation of the method of describing the triangulation stations, as it contains certain details that are common to all the landmarks described in this publication and which are omitted in the separate descriptions as being needless repetitions:

Name.—The title at the top of each separate description is the name by which the landmark or triangulation station is known and designated in all work and published oyster records or oyster charts of both the Government and State. The selection of the name is usually left to the triangulator establishing the station, and it may or may not have geographic or other significance in reference to the locality.

General locality.—Under this heading is given the general locality of the landmark in reference to well-known and prominent natural or artificial features, such as the

nearest body of water, town, river, steamer wharf, well-defined point of land, church, or any other feature that is likely to remain both permanent and prominent.

This heading also covers a reference to the published chart or map which shows the location of the station most clearly. Nearly all the triangulation stations described in this publication are plainly indicated by name and a triangulation symbol on the published charts of oyster bars of Maryland. In this case they are referred to by serial number only, the words "charts of oyster bars of Maryland" being omitted to avoid needless repetition. These published oyster charts are on the large scale of 1 part in 20,000 (approximately 3⅓ inches to a statute mile) and show the location of the triangulation stations so clearly that in many cases the written descriptions will not be required to find them.

Immediate locality.—Under this heading is given the description of the "observed station" in reference to its immediate surroundings. This is supposed to include a statement of the station's estimated elevation above high water or some other well-defined level of the locality, such as a road or house; the character of the ground on which it is located, such as marsh land, sand beach, cultivated field, or meadow; estimated bearings in points of the compass and estimated distances in yards *from* (*not to*) easily recognized features, such as extreme end of point, edge of bluff, bank of creek, line of telephone poles, shore line, barn, house, fence, ditch, trees, or any other definite detail, such as being on range with the tangent of an island and a church; and so forth.

When a standard monument has been established near the station as a "reference station," this heading also covers a statement of the true bearing of the monument in degrees and minutes and its measured distance in meters, as it is the first object that is likely to catch the eye when the immediate vicinity of the desired station is reached and might be mistaken for the center mark of the "observed station" unless special attention is called to it.

The distinction between the "observed station" and "reference station" should be carefully noted by anyone making use of the description of stations for any future surveying operations.

The "observed station" is located at the particular triangulation point covered by the description of stations and is the one whose geographic position is first computed, as it is the point which was "occupied" and "observed on" for horizontal angles. However, in spite of the primary importance of the location of the "observed station," it will be noted from the description of stations that frequently it is not marked as well as the "reference station," and in many instances has only a pine stub to indicate its position. This is the case for the reason that the necessity of intervisibility of landmarks usually made it compulsory to locate "observed stations" on edges of banks and ends of points of land, which in the tidewater section of Maryland generally means they will be washed away in a short period of years. The past experience of the Coast and Geodetic Survey in this region has shown the great need of "reference stations," if the frequent reestablishment of a new framework of triangulation is to be avoided.

The chief reason and need for the establishment of the "reference station," or secondary station, as it might be well named, is explained in the preceding paragraph, but in several instances other reasons, such as the location of the "observed station" on an unstable sand dune, in a cultivated field, in front of a residence, or other places objectionable to the landowner, have led to establishment of "reference stations."

The location of the "reference station" in relation to the "observed station" is fixed for plotting on charts or for computation of its geographic position by checked measurements of its distances and azimuth from the "observed station." [1]

Marks.—Under this heading is given a description of the character of the permanent monuments or other marks of the location of the "observed station," and of the "reference station" where one has been established.

All the marks designated in the descriptions as "the center point of triangle on standard cement monument" are exactly alike. These monuments are made of cement, sand, and gravel, and are 2 feet long and 8 inches square at top and bottom. Their tops are all marked with the same brass mold and show a center hole surrounded by a triangle, with the letters "M. S. F. C." arranged around the vertex and the letters "U. S. C. S." underneath the base of the triangle. The center hole is always in the center of the top of the monument by construction, and if this is found to have been broken off without disturbing the bottom the center of its square section can be used as the location of the station.

All the "standard cement monuments," whether used for marking the "observed station" or "reference station," have been planted upright in exactly the same manner, with their tops projecting 3 or 4 inches above the surface of the ground, unless otherwise stated.

Therefore, as the above facts in reference to the "standard cement monuments" are a constant element in all cases, the repetition of these facts in the description of stations is made needless by this one statement.

References.—Under this heading are given the "rounds" of directions and distances to all objects that might be useful in locating the stations when the surface marks can not be found. It is also contemplated that for general purposes of topography, hydrography, or location of boundaries of oyster bars these references will be sufficient in many cases to relocate the position of an "observed station" or "reference station" when both of them have been destroyed.

The first reference object given in the descriptions is always a triangulation station visible from the station being described, this, if possible, being a lighthouse, church spire, or other permanent and prominent point. Its direction is taken as being 0° 00′ 00″, and the directions of all other objects are measured from it as an initial point, the angles being taken in a clockwise direction (left to right).

The true bearing [2] of the initial object is always given in parentheses alongside its name. This furnishes means for the calculation of the bearings of any of the other reference objects for the purposes of locating a station by horizontal angles or for the relocation of corner buoys of oyster-bar boundaries by the method of compass directions described in this publication under the heading of "Boundaries of oyster bars."

The distances in the last column under "References" are given in three different units, which vary according to their accuracy. The "miles" are statute miles and may be considered only as rough estimates. The "yards" are more accurate, but must be looked on as results generally obtained by pacing or careful estimating. The "meters,"

[1] Geographic coordinates (latitude, longitude, distance, and azimuth) relating to any of the "observed stations" or of the "reference stations" described in this publication can be obtained by application to the Superintendent of the Coast and Geodetic Survey, at Washington, D. C.

[2] The mean magnetic variation for Queen Annes County was 6° 15′ west of north in 1911 and increasing at the rate of 5′ yearly.

however, are accurate to the degree indicated by their decimals and in every case have been measured with a steel tape. In the same manner the accuracy of the directions are indicated by the refinement of angular measure with which they are recorded.

DESCRIPTIONS OF TRIANGULATION STATIONS.

SWAN POINT 3.

General locality.—Eastern shore of Chesapeake Bay on Swan Point about 5½ miles south-southwest of Tolchester Beach Wharf and 7 miles north of Love Point. (See Chart No. 29.)

Immediate locality.—Observed station is on sand and marsh point about 2 feet above high water, 5 feet east of shore, 60 yards south southwest of a fisherman's cabin, and 250 yards from the extreme end of Swan Point. Cement monument marking old reference station is in marsh 21.43 meters N 89° 13′ E of observed station. Standard cement monument marking new reference station is on line to old reference station 13.26 meters N 89° 13′ E of observed station.

Marks.—Observed station is ¼-inch copper rod set in an 8-inch square cement monument with top about 5 inches below surface of ground. Subsurface mark is the neck of a flask set in cement about 4 feet below the surface. New reference station is center point of triangle on standard cement monument. Old reference station is eastern one of two ¼-inch copper rods in an 8-inch cement monument.

References.—

	°	′	″		
"Love Point Light" (S 2° 11′ W)	0	00	00	.....	5¾ miles.
"Baltimore Light"	46	07	00	.....	8½ miles.
Stack on garbage plant at Bodkin Point	82	21	..	.....	8¼ miles.
"Seven Foot Knoll Light"	95	04	50	.....	7 miles.
Left stack at Sparrow Point	111	12	..	.....	12¼ miles.
"Fort Howard Taller Water Tank"	112	28	20	.....	9⅞ miles.
"Craighill Channel Light (Front Range)"	114	59	50	.....	7 miles.
"Craighill Channel Light (Rear Range)"	131	46	20	.....	8¾ miles.
Chimney of cabin	203	54	..	.....	58 yards.
Gable of Rockhall Wharf house	264	07	..	.....	1 mile.
OLD REFERENCE STATION	267	02	20	.....	21.43 meters.
NEW REFERENCE STATION (STANDARD CEMENT MONUMENT)	267	02	20	.....	13.26 meters.
Chimney of house to right of Windmill Point	292	12	..	.....	2 miles.
Gable of barn	303	49	..	.....	2⅛ miles.
Gable of barn near Wickes Beach	340	52	..	.....	7⅝ miles.

BANK.

General locality.—Eastern shore of Chesapeake Bay on western side of entrance to Tavern Creek about ⅝ mile northeast of Swan Point. (See Chart No. 29.)

Immediate locality.—Observed station is in a cultivated field about 7 feet above high water, 12 yards inshore, and 2 yards from edge of bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Love Point Light" (S 7° 27′ W)	0	00	00	.....	6⅛ miles.
"Baltimore Light"	42	32	50	.....	9 miles.
Nail in blaze in locust tree (3 inches diameter)	56	04	00	.....	10.39 meters.
Chimney of fishing shack on Swan Point	71	17	..	.....	¼ mile.
"Seven Foot Knoll Light"	88	14	40	.....	7½ miles.
West gable of Strong barn	153	39	..	.....	⅜ mile.
Southwest corner of Strong house	174	09	..	.....	⅜ mile.

References—Continued.	°	′	″		
Chimney of tenant house	212	55	..	.....	¾ mile.
North gable of barn	250	47	..	.....	1⅜ miles.
Thompson windmill	271	47	..	.....	½ mile.
West gable of Rockhall Wharf house	274	08	..	.....	⅜ mile.
North gable of Downey house	278	49	..	.....	½ mile.
Nail in blaze in locust tree (4 inches diameter)	292	56	20	.....	10.32 meters.
South one of twin trees on Little Neck Island	352	59	..	.....	¼ mile.

GRATITUDE.

General locality.—Eastern shore of Chesapeake Bay at eastern side of entrance to Swan Creek opposite middle of Little Neck Island and near old Rockhall Wharf. (See Chart No. 29.)

Immediate locality.—Observed station is on a marsh meadow about 1 foot above high water, 12 yards east of shore, 150 yards southwest of a house, and 400 yards south-southwest of Rockhall Landing.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Love Point Light" (S 11° 46′ W)	0	00	00	.....	5⅞ miles.
"Sandy Point Light"	26	05	10	.....	10¾ miles.
"Baltimore Light"	41	21	20	.....	9⅜ miles.
Chimney of fishing shack on Swan Point	90	47	..	.....	1 mile.
Left tangent of piles of old Rockhall Wharf	124	15	..	.....	200 yards.
West gable of Strong barn	130	49	..	.....	¾ mile.
Chimney of tallest wharf house at Rockhall Landing	162	15	..	.....	¼ mile.
Chimney of house	166	19	..	.....	1 mile.
Post on northwest corner of Downey porch	196	57	..	.....	150 yards.
Nail in blaze in cedar tree (10 inches diameter)	273	02	40	.....	107 yards.
North gable of old barn	276	36	..	.....	200 yards.
North gable of barn	309	21	..	.....	1⅝ miles.

WINDMILL POINT.

General locality.—Eastern shore of Chesapeake Bay on Windmill Point at northern side of entrance to Rockhall Harbor. (See Chart No. 29.)

Immediate locality.—Observed station is on low marsh land about level with high water, about 30 yards back from end of point, and 20 yards south of a group of large pine trees. Cement monument marking reference station is 24.13 meters N 20° 14′ E of observed station.

Marks.—Observed station is center point of 2-inch tile pipe filled with sand with top about flush with surface of ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Love Point Light" (S 17° 47′ W)	0	00	00	.....	5½ miles.
Nail in blaze in pine tree (18 inches diameter)	146	39	30	.....	17.38 meters.
Nail in blaze in pine tree (24 inches diameter)	178	03	00	.....	23.57 meters.
REFERENCE STATION	182	27	00	.....	24.13 meters.
Nail in blaze in pine tree (20 inches diameter)	216	10	20	.....	16.52 meters.
Rockhall Methodist Episcopal Church spire	238	05	40	.....	1 mile.
Highest gable on Sharps Wharf	246	42	..	.....	⅜ mile.
East chimney of house	271	27	..	.....	½ mile.
Chimney of small house	287	55	..	.....	½ mile.
West chimney of small house	311	04	..	.....	1 mile.

STEVENS.

General locality.—Eastern shore of Chesapeake Bay about ¼ mile south of Huntingfield Point at entrance to Huntingfield Creek. (See Chart No. 29.)

Immediate locality.—Observed station is in a cultivated field about 15 feet above high water, 55 yards back from edge of vertical bank 3 feet higher than station, and 450 yards south of the extreme end of Huntingfield Point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Love Point Light" (S 25° 03′ W)	0	00	00	.....	4⅝ miles.
Right tangent of Love Point	12	13	..	.....	6½ miles.
Southeast corner of fishing shack on Swan Point	111	24	..	.....	2½ miles.
East gable of Strong barn	125	42	..	.....	2½ miles.
Thompson windmill	135	01	20	.....	2 miles.
Chimney of house	150	32	..	.....	1¼ miles.
Nail in blaze in cedar tree (10 inches diameter)	155	24	20	.....	200 yards.
Wicks windmill	223	16	20	.....	1 mile.
Nail in blaze in locust tree (18 inches diameter)	227	23	00	.....	110 yards.
Chimney of small house	239	58	..	.....	1 mile.
Nail in blaze in persimmon tree (10 inches diameter)	275	26	20	.....	130 yards.
Chimney of Stevens tenant house	320	39	..	.....	¼ mile.

BALTIMORE LIGHT.

General locality.—Western side of Chesapeake Bay off shore about 1¼ miles east of mouth of Magothy River and ⅛ mile west of entrance to dredged channel leading to Baltimore. (See Progress Map.)

Immediate locality.—Observed station is on brick octagonal dwelling on cylindrical foundation known as Baltimore Lighthouse.

Marks.—Observed station is center point of lantern on Baltimore Lighthouse.

References.—None necessary.

SANDY POINT LIGHT.

General locality.—Western side of Chesapeake Bay off shore about ½ mile east of Sandy Point. (See Chart No. 29.)

Immediate locality.—Observed station is on brick dwelling on cylindrical foundation known as Sandy Point Lighthouse.

Marks.—Observed station is center point of lantern on Sandy Point Lighthouse.

References.—

	°	′	″		
"Bodkin Point (Old Tower)" (N 14° 35′ W)	0	00	00	.....	8¼ miles.

RING.

General locality.—Eastern shore of Chesapeake Bay on western side of Kent Island about 2¼ miles south-southwest of Love Point and 3¾ miles east of Sandy Point. (See Chart No. 29.)

Immediate locality.—Observed station is in a cultivated field about 20 feet above high water, 12 yards inshore, and 2 yards from edge of bank. Cement monument marking reference station is 9.36 meters N 79° 21′ E of observed station.

Marks.—Observed station is center of 4-inch tile pipe with top 3 inches below surface of ground. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—

	°	′	″	
"Sandy Point Light" (N 84° 56′ W)	0	00	00	3⅜ miles.
Cupola on barn	117	51	..	1 mile.
South chimney of house	141	00	..	¼ mile.
Reference station	164	17	10	9.36 meters.
Lone tree (2 inches diameter)	224	10	..	300 yards.
South chimney of house	238	56	..	300 yards.

LOVE POINT LIGHT.

General locality.—Eastern side of Chesapeake Bay at entrance to Chester River offshore about 1½ miles northeast of Love Point. (See Chart No. 29.)

Immediate locality.—Observed station is on hexagonal screw pile structure known as Love Point Lighthouse.

Marks.—Observed station is center point of lantern on Love Point Lighthouse.

References.—

	°	′	″	
"Wickes Beach" (S 47° 55′ E)	0	00	00	3½ miles.

AMOUR.

General locality.—Northern end of Kent Island at western side of entrance to Chester River about ¼ mile southeast of Love Point and ⅜ mile north of Love Point Landing. (See Chart No. 29.)

Immediate locality.—Observed station is on sand and marsh point about 2 feet above high water, 25 yards inshore, and 55 yards north of fishing shack.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Love Point Light" (N 33° 42′ E)	0	00	00	1⅝ miles.
Left chimney of house	28	28	..	4⅜ miles.
West gable of house on East Neck	48	00	..	3¾ miles.
North gable of barn	54	30	..	3¼ miles.
North gable of house on Cedar Point	76	30	..	5 miles.
Gable of barn	128	18	..	4½ miles.
Left tangent of Kent Island Landing	132	59	..	1¾ miles.
Northeast corner of fishing shack	140	38	..	57 yards.
Nail in blaze in cedar tree (3 inches diameter)	174	43	..	12.46 meters.
"Railway Water Tank"	199	53	50	⅝ mile.
Nail in blaze in cedar tree (4 inches diameter)	206	10	00	11.30 meters.
Nail in blaze in cedar tree (6 inches diameter)	295	02	00	38.88 meters.

RAILWAY WATER TANK.

General locality.—Northern end of Kent Island about halfway between Chesapeake Bay and Chester River and ¾ mile south by west of Love Point. (See Chart No. 29.)

Immediate locality.—Observed station is on the only large elevated water tank located just north of the center of the bend of the railway that leaves Love Point Landing.

Marks.—Observed station is center point of top of water tank.

References.—None necessary.

WICKES BEACH.

General locality.—Eastern shore of mouth of Chester River on western side of East Neck Island near Wickes Beach. (See Chart No. 29.)

Immediate locality.—Observed station is on a narrow sand beach about on level with high water, 10 yards back from low water, and 2 yards west of swamp which extends back to woods.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Love Point Light" (N 47° 54′ W)	0	00	00	3 miles.
Nail in blaze in oak tree (15 inches diameter)	60	45	40	300 yards.
Nail in blaze in gum tree (12 inches diameter)	70	59	00	250 yards.
Nail in blaze in oak tree (15 inches diameter)	114	05	50	200 yards.
North cupola of barn	155	15	..	⅝ mile.
Lone tree on Cedar Point	178	23	..	1⅞ miles.
East gable of barn	200	21	..	4 miles.
North gable of Jackson wharf house	214	26	..	4⅛ miles.
North gable of barn	276	32	..	3⅜ miles.
Cupola on farmhouse	299	16	..	3⅜ miles.
"Railway Water Tank"	321	45	00	3⅝ miles.
North flagstaff on Love Point Hotel	323	27	..	3⅜ miles.

NARROWS POINT.

General locality.—Northern shore of Chester River on southwest end of East Neck Island, about ⅛ mile north of Cockeys Island and ⅜ mile west-northwest of Cedar Point. (See Charts Nos. 29 and 30.)

Immediate locality.—Observed station is on a low marshy point about level with high water, about 7 yards from low water, and 325 yards west of a fishing shack. Cement monument marking reference station is 12.28 meters N 7° 58′ E of observed station.

Marks.—Observed station is center of 3-inch tile pipe filled with cement with top 4 inches below surface of ground. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—

	°	′	″	
"Wickes Beach" (N 46° 58′ W)	0	00	00	1⅞ miles.
REFERENCE STATION	64	56	10	12.28 meters.
Chimney of fishing shack	133	08	..	325 yards.
West gable of Queenstown elevator	153	44	..	3¼ miles.
Cupola on barn	164	05	..	2⅝ miles.
North gable of house	189	51	..	2½ miles.
North gable of barn	194	53	..	2½ miles.
Cupola on barn	216	26	..	2½ miles.
North gable of house	228	16	..	2¾ miles.
North gable of house on Jackson Creek	231	47	..	2⅞ miles.
East gable of Jackson wharf house	233	52	..	2¾ miles.
North gable of barn	254	28	..	3 miles.
West chimney of house	285	16	..	3⅜ miles.
Chimney of house near Macum Creek	293	36	..	4⅛ miles.
East chimney of house	318	01	..	4¼ miles.
"Railway Water Tank"	334	11	40	5¼ miles.
South flagstaff on Love Point Hotel	335	26	..	5⅛ miles.
Flagstaff on Love Point Wharf	335	42	..	4¾ miles.
Right tangent of Love Point	341	30	..	5 miles.

MACUM.

General locality.—Southern shore of Chester River on Kent Island, about 4½ miles south of Love Point Light, 3 miles south-southeast of Love Point Landing and ½ mile north-northwest of Macum Creek. (See Chart No. 29.)

Immediate locality.—Observed station is in cultivated field about 7 feet above high water, 25 yards inshore, and 16 yards south of two cedar trees at edge of bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Love Point Light" (N 0° 19′ E)	0	00	00	.....	4½ miles.
North cupola of barn on East Neck Island	50	41	..	.....	3¾ miles.
Chimney of house on East Neck Island	52	13	..	.....	3¾ miles.
Nail in blaze in persimmon tree (6 inches diameter)	57	02	50	.....	22.24 meters.
South corner of fishing shack on Cedar Point	72	08	..	.....	4 miles.
West gable of large barn	89	48	..	.....	5 miles.
Cupola on small house	97	00	..	.....	5 miles.
West gable of house	102	15	..	.....	4½ miles.
Cupola on barn	108	29	..	.....	3 miles.
Gable of house near Jackson Creek	119	26	..	.....	3⅝ miles.
East chimney of brick house	195	59	..	.....	¼ mile.
East chimney of house	212	31	..	.....	1 mile.
Cupola on house	221	52	..	.....	1⅜ miles.
East chimney of house	225	18	..	.....	⅝ mile.
North chimney of house	257	16	..	.....	400 yards.
Lone cedar tree	266	08	..	.....	500 yards.
Nail in blaze in cedar tree (4 inches diameter)	314	14	30	.....	30.98 meters.
"Railway Water Tank"	333	17	20	.....	3⅛ miles.
East gable of wharf house on Kent Island Landing	339	28	..	.....	1½ miles.
Flagstaff on wharf house on Love Point Landing	342	03	..	.....	3⅛ miles.
Chimney of fishing shack	343	11	..	.....	3¼ miles.

THIN.

General locality.—Southern shore of Chester River on western side of entrance to Kent Narrows, about ¾ mile north of Narrows railway station. (See Chart No. 29.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 55 yards north of shore, and 55 yards west of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Muddy" (N 37° 55′ E)	0	00	00	.....	⅞ mile.
Smoke pipe on shanty	75	13	..	.....	1 mile.
Large low telegraph pole	99	27	..	.....	¾ mile.
Smoke pipe on slant-roofed shanty	107	58	..	.....	⅝ mile.
Near corner of fishing shanty	196	21	..	.....	¼ mile.
Tangent of Long Point	356	41	..	.....	¾ mile.

MUDDY.

General locality.—Southern shore of Chester River on Long Point between Muddy Creek and Jackson Creek about 2¼ miles southwest of Cedar Point and 3½ miles west of Queenstown. (See Charts Nos. 29 and 30.)

Immediate locality.—Observed station is on marsh land covered with myrtle bushes, about 2 feet above high water, 7 yards inshore, 25 yards southwest of extreme end of point, and 70 yards north of group of pine trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Love Point Light" (N 28° 41′ W)	0	00	00	6 miles.
East chimney of house	34	54	..	2¾ miles.
Lone pine tree on Cedar Point	53	36	..	2¼ miles.
South gable of barn	79	35	..	4½ miles.
Cupola on barn	103	11	..	3 miles.
Cupola on barn	114	53	..	2¼ miles.
West gable of barn	134	33	..	1¾ miles.
Chimney of house	146	39	..	1¼ miles.
North gable of wharf house on Jackson Creek Landing	179	21	..	1 mile.
North gable of house	182	10	..	1¼ miles.
Chimney of small house	202	56	..	¾ mile.
Nail in blaze in pine tree (8 inches diameter)	221	12	50	63 yards.
Nail in blaze in pine tree (12 inches diameter)	243	25	00	67 yards.
South flagstaff of Love Point Hotel	339	43	30	5⅝ miles.
North gable of wharf house on Love Point Landing	341	46	..	5¼ miles.
Right tangent of Love Point	345	12	..	5⅝ miles.

BRIDGE.

General locality.—Southern side of Chester River on western shore of Kent Narrows about ⅛ mile west of Narrows railway station. (See Charts Nos. 29 and 32.)

Immediate locality.—Observed station is on a telegraph pole at a point about 25 feet above high water, 4 yards south of near rail of railroad, 8 yards west of end of railroad bridge, and 7 yards from tie line of bridge.

Marks.—Observed station is a small staff nailed to telegraph pole.

References.—None necessary.

RAILROAD.

General locality.—Southern side of Chester River on eastern shore of Kent Narrows about ⅜ mile east-southeast of Narrows railway station and ⅛ mile south of railroad. (See Charts Nos. 29 and 32.)

Immediate locality.—Observed station is on cultivated land about 8 feet above high water, 35 yards south by west of telephone line on north side of county road, 75 yards east of shanty, and 80 yards northeast of shore of small cove.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Marshy" (S 2° 38′ E)	0	00	00	.....	¾ mile.
Cupola on barn	29	36	..	.....	2¼ miles.
Chimney on ell of large house	38	04	..	.....	2¾ miles.
Right tangent of shanty	96	32	..	.....	75 yards.
South peak of Fisherman Inn	118	01	..	.....	⅜ mile.
Nail in blaze in tree (8 inches diameter)	139	44	10	.....	38.07 meters.
Nail in blaze in cherry tree (14 inches diameter)	163	29	40	.....	27.09 meters.
Nail in blaze in telephone pole No. 2848	197	15	20	.....	30.33 meters.
Smoke pipe of shanty	209	50	..	.....	100 yards.
Near peak of ell-shaped house	269	00	..	.....	1¾ miles.
Near peak of house	292	19	..	.....	1¾ miles.
Left peak of barn	345	37	..	.....	1½ miles.
House in trees	354	10	..	.....	1⅝ miles.

BLUEBEARD.

General locality.—Eastern shore of Chester River on point at entrance to a small creek about ⅝ mile northeast of Blunt Creek and 1 mile southwest of entrance to Queenstown Creek. (See Chart No. 30.)

Immediate locality.—Observed station is on a low sand beach about 1 foot above high water, 5 yards inshore, 2 yards east of small persimmon tree, 55 yards northeast of a small stream, and 200 yards north-northeast of a pond.

Marks.—Observed station is center point of triangle on standard cement monument projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Love Point Light" (N 47° 53′ W)	0	00	00	.....	7 miles.
South gable of house	12	03	..	.....	2⅞ miles.
Right tangent of piles of Bogle wharf	29	48	..	.....	3⅜ miles.
Largest of four pine trees on Piney Point	48	58	..	.....	4 miles.
East chimney of house	70	23	..	.....	2⅜ miles.
Black beacon at entrance to Queenstown Creek	90	23	40	.....	1 mile.
Nail in blaze in swamp-oak tree (4 inches diameter)	122	01	10	.....	10.60 meters.
Nail in blaze in chestnut tree (18 inches diameter)	197	34	10	.....	150 yards.
Nail in blaze in oak tree (6 inches diameter)	270	04	20	.....	125 yards.
Cupola of barn	278	50	..	.....	1½ miles.
East chimney of house	279	24	..	.....	1½ miles.
North gable of Jackson Creek landing house	290	11	..	.....	2⅜ miles.
East gable of house	329	17	..	.....	5¼ miles.
Gable of Love Point wharf house	344	08	..	.....	6¾ miles.
Right tangent of Love Point	347	46	..	.....	7 miles.

BLAKEFORD.

General locality.—Eastern shore of Chester River about ⅜ mile north of Blakeford Point at entrance to Queenstown Creek. (See Chart No. 30.)

Immediate locality.—Observed station is about 15 feet above high water, 8 yards inshore, 2 yards back from top of bank with uniform slope to beach, 25 yards north of gully, and 25 yards south of large sycamore tree at foot of slope.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Rain" (N 74° 56′ W)	0	00	00	1⅞ miles.
Right tangent of piles of Bogle wharf	27	33	..	3 miles.
Nail in blaze in cedar tree (4 inches diameter)	83	12	10	13.31 meters.
Northwest corner of house in woods	155	39	..	300 yards.
West gable of small house	174	19	..	⅜ mile.
West gable of large barn	215	41	..	⅝ mile.
West gable of house	235	20	..	¾ mile.
Northeast corner of elevator at Queenstown	239	21	..	⅝ mile.
Nail in blaze in ash tree (15 inches diameter)	247	00	20	21.30 meters.
First black beacon at entrance to Queenstown Creek	294	49	..	½ mile.
Chimney of fishing shack on Cedar Point	352	26	..	2⅝ miles.

RAIN.

General locality.—Western shore of Chester River on Hail Point about 1⅝ miles south-southeast of Bogle Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is about 5 feet above high water, 3 yards north of shore, and 20 yards northwest of extreme end of point. Cement monument marking reference station is 29.84 meters N 65° 20′ W of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark of reference station is center of 2-inch tile pipe with top 2 inches below base of monument.

References.—

	°	′	″	
"Bluebeard" (S 21° 17′ E)	0	00	00	1⅞ miles.
Chimney of house	11	07	..	2¾ miles.
Cupola on barn	33	55	..	2⅞ miles.
Chimney of house on Jackson Creek	45	07	..	3⅜ miles.
Chimney of small house	48	32	..	3⅛ miles.
Chimney of fishing shack	101	34	..	⅞ mile.
Nail in blaze in pine tree (10 inches diameter)	119	46	30	15.45 meters.
REFERENCE STATION	135	56	20	29.84 meters.
Nail in blaze in pine tree (10 inches diameter)	147	05	50	18.09 meters.
South gable of house	173	28	..	1½ miles.
Right tangent of piles of Bogle Wharf	186	59	..	1⅝ miles.
Williams water tank	255	59	..	2 miles.
Black Beacon at entrance to Queenstown Creek	318	01	..	1½ miles.
Cupola on barn	338	50	..	1¾ miles.

BREAK.

General locality.—Eastern shore of Chester River on Break Point about ⅛ mile north of north side of entrance to Tilghmans Creek. (See Chart No. 30.)

Immediate locality.—Observed station is in a cultivated field about 5 feet above high water, 13 yards inshore, 4 yards from edge of bank, 200 yards north of extreme end of point, and 300 yards west of a house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Blakeford" (S 23° 21′ E)	0	00	00	1¼ miles.
North chimney of house at Queenstown	6	55	..	2⅛ miles.
Chimney of house	37	48	..	3⅜ miles.
Cupola on barn near Jackson Creek Landing	49	05	..	4⅛ miles.
Chimney of small house	55	05	..	4½ miles.
Chimney of small house	58	35	..	5¼ miles.
Chimney of Greens fishing shack	84	38	..	1½ miles.
South chimney of house	103	42	..	2⅛ miles.
East gable of house	131	23	..	2⅞ miles.
Right tangent of piles of Bogle Wharf	133	30	..	1⅝ miles.
East chimney of house	151	35	..	2⅛ miles.
East chimney of house	176	46	..	3¾ miles.
Williams water tank	200	58	..	¼ mile.
Knob on door of fishing shack	349	58	..	¼ mile.

OVERTON.

General locality.—Western shore of Chester River on north side of entrance to Durdin Creek and about 100 yards south of Bogle Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is on marsh land about 1 foot above high water, 4 yards inshore, 100 yards south of Bogle Wharf, 250 yards southeast of Bogle store, and 300 yards west of Bogle Wharf house. Cement monument marking reference station is 11.26 meters S 73° 06′ W of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″	
"Bay Bush Point" (N 3° 13′ W)	0	00	00	1¾ miles.
South gable of barn	4	12	..	2⅞ miles.
South gable of barn	17	21	..	3 miles.
West gable of barn	39	13	..	5 miles.
Left tangent of piles of Bogle Wharf	73	17	..	300 yards.
Chimney of house	119	25	..	2½ miles.
Lower west gable of Queenstown elevator	138	21	..	3½ miles.
North gable of house	140	27	..	3¾ miles.
Right tangent of woods on Hail Point	168	59	..	1⅜ miles.
REFERENCE STATION	256	19	40	11.26 meters.
Chimney of Bogles store	289	17	..	250 yards.

FIR.

General locality.—Eastern shore of Chester River on Piney Point about 1⅝ miles north-northwest of Break Point and ½ mile west of Piney Cove. (See Chart No. 30.)

Immediate locality.—Observed station is on marsh land at the extreme end of Piney Point, about on level with high water, and about 4 yards east of shore. Cement monument marking reference station is 10.45 meters S 70° 43′ E of observed station.

Marks.—Observed station is center of 2-inch tile pipe with top flush with surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″		
"Break" (S 21° 04′ E)	0	00	00	.....	1½ miles.
East chimney of house at Queenstown	2	36	..	.....	4 miles.
Chimney of house	24	17	..	.....	4½ miles.
Gable of barn near Jackson Creek Landing	34	49	..	.....	5¼ miles.
North gable of house	35	17	..	.....	5½ miles.
Chimney of fishing shack	51	41	..	.....	2¾ miles.
Right tangent of piles of Bogle Wharf	71	41	..	.....	1¾ miles.
Chimney of house	77	08	..	.....	1¼ miles.
South chimney of house	135	34	..	.....	1½ miles.
North chimney of house	170	54	..	.....	2¼ miles.
West chimney of house	178	00	..	.....	3 miles.
West gable of barn	199	30	..	.....	3⅛ miles.
Left tangent of woods	226	37	..	.....	¾ mile.
REFERENCE STATION	310	21	10	.....	10.45 meters.
Williams water tank	339	41	..	.....	1¼ miles.

BAY BUSH POINT.

General locality.—Western shore of Chester River on a point about ¼ mile north of entrance to Fryingpan Cove and Churn Creek. (See Chart No. 30.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 15 yards inshore, and in front of several persimmon trees. Cement monument marking reference station is 10.16 meters N 80° 13′ W of observed station.

Marks.—Observed station is nail in 3-inch cement-filled tile pipe with top 6 inches below surface of ground incased in cement cake bearing the legend "U. S. C. S.–1896." Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″		
"Fir" (S 57° 56′ E)	0	00	00	.....	1½ miles.
Williams water tank	8	22	..	.....	2½ miles.
Chimney of house at Queenstown	27	17	..	.....	5⅛ miles.
West gable of barn	35	42	..	.....	4⅞ miles.
Left tangent of woods on Hail Point	45	58	..	.....	3¼ miles.
Chimney of Bogle store	58	00	..	.....	1⅝ miles.
Nail in blaze in persimmon tree (6 inches diameter)	69	04	00	.....	6.25 meters.
REFERENCE STATION	157	43	00	.....	10.16 meters.
Nail in blaze in persimmon tree (8 inches diameter)	220	45	00	.....	6.20 meters.
West chimney of house	244	04	..	.....	1¼ miles.
East gable of barn	262	10	..	.....	3 miles.
West gable of barn	297	51	..	.....	4⅛ miles.
West gable of barn	316	19	..	.....	3 miles.

GORDON.

General locality.—Eastern side of Chester River about 55 yards offshore, ¾ mile southwest of entrance to Reeds Creek and ⅞ mile north-northeast of Piney Point. (See Chart No. 30.)

Immediate locality.—Observed station is in about 3 feet of water at high tide, 55 yards offshore, and 300 yards southwest of end of woods and cultivated field. Cement monument marking reference station is 57.49 meters S 71° 15′ E of observed station.

Marks.—Observed station is nail in 2-inch by 4-inch pine stub driven with top to high water. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″	
"Fir" (S 25° 18′ W)	0	00	00	⅞ mile.
Left tangent of piles of Bogle Wharf	15	23	..	2⅛ miles.
East gable of barn	42	41	..	2 miles.
South chimney of house	103	30	..	2 miles.
West chimney of Harris house	118	39	..	2¾ miles.
South gable of Strong tenant house	129	39	..	3 miles.
South chimney of house	145	25	..	3 miles.
Spindle on Brown house	167	02	..	3⅛ miles.
South gable of corncrib	197	36	..	3 miles.
Nail in blaze in pine tree (10 inches diameter)	252	39	30	57.93 meters.
REFERENCE STATION	263	26	40	57.49 meters.
Nail in blaze in pine tree (18 inches diameter)	286	55	40	57.02 meters.

BIRD.

General locality.—Eastern shore of Chester River on Gordon Point at southwest side of entrance to Reeds Creek about 1½ miles southwest of Holton Point. (See Chart No. 30.)

Immediate locality.—Observed station is in a marsh meadow about 2 feet above high water and 75 yards west of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 7 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Crow" (S 14° 23′ W)	0	00	00	⅜ mile.
Lone pine tree (12 inches diameter)	69	59	..	300 yards.
North chimney of house	85	13	..	3¼ miles.
South gable of barn	115	56	..	2⅞ miles.
Northwest corner of house	230	16	..	⅝ mile.
North chimney of house	300	01	..	1 mile.
North gable of house	343	41	..	1½ miles.
Windmill	358	43	..	¼ mile.
Chimney of house	359	09	..	⅝ mile.

CROW.

General locality.—Eastern side of Chester River on western shore of Reeds Creek about ½ mile south of extreme end of Gordon Point. (See Chart No. 30.)

Immediate locality.—Observed station is in yard of tenant house about 4 feet above high water, 12 yards west of shore, 5 yards south of a pear orchard, and 7 yards north of a house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Bird" (N 14° 23′ E)	0	00	00	⅜ mile.
South gable of house near Cliffs Landing	3	03	..	3¾ miles.
South gable of barn	36	18	..	1¼ miles.
Cupola of barn	73	23	..	1½ miles.
Northeast corner of Carnell tenant house	99	01	30	8.71 meters.
Northwest corner of Carnell tenant house	128	43	10	6.65 meters.
Northeast corner of barn	198	25	20	14.06 meters.
Northwest corner of barn	221	37	10	12.68 meters.

GROVE.

General locality.—Eastern side of Chester River on a point between Reeds Creek and Grove Creek about ½ mile southeast of Gordon Point. (See Chart No. 30.)

Immediate locality.—Observed station is in a meadow about 2 feet above high water, 26 yards south of shore, 8 yards west of three persimmon trees, and 35 yards west of a pond.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Reeds" (N 20° 32′ E)	0	00	00	½ mile.
East chimney of house	13	06	..	¾ mile.
South gable of barn	19	41	..	¾ mile.
Nail in blaze in persimmon tree (6 inches diameter)	53	05	50	10.98 meters.
Cupola on barn	75	58	..	⅝ mile.
Cupola on Wright barn	108	16	..	¾ mile.
North gable of barn	168	50	..	⅝ mile.
East gable of house	181	32	..	¾ mile.
South gable of house	230	54	..	½ mile.
Lone pine tree on Gordon Point	282	13	..	½ mile.
Cupola on barn	316	04	..	4 miles.
South chimney of house	326	13	..	4 miles.
Nail in blaze in sassafras tree (5 inches diameter)	338	48	40	10.34 meters.

REEDS.

General locality.—Eastern shore of Chester River at northeast side of entrance to Reeds Creek and about ⅝ mile south of Robins Cove. (See Chart No. 30.)

Immediate locality.—Observed station is on marsh land about 2 feet above high water, 34 yards east of shore, 9 yards north of ditch draining swamp, and in center of triangle formed by three pine stubs driven flush with marsh to support theodolite.

Marks.—Observed station is center point of triangle on standard cement monument projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Bird" (S 62° 26′ W)	0	00	00	½ mile.
East chimney of Harris house	60	07	..	3⅜ miles.
Chimney of house	101	57	..	3¼ miles.
East chimney of Brown house	112	01	..	3 miles.
Chimney of cabin	186	55	..	300 yards.
Cupola on barn	276	35	..	1¼ miles.
North gable of house	316	12	..	1⅜ miles.
Chimney of house	337	46	..	⅞ mile.

LITTLE GUM.

General locality.—Western shore of Chester River on Little Gum Point at southwest side of entrance to Grays Inn Creek. (See Chart No. 30.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 2 yards south of shore, and 12 yards southeast of a 4-foot ditch. Cement monument marking reference station is 40.97 meters N 33° 31′ W of observed station.

Marks.—Observed station is center of 2-inch tile pipe with top flush with surface of ground. Subsurface mark is 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″	
"Weeks" (N 29° 53′ W)	0	00	00	⅜ mile.
East gable of old house on opposite shore	29	45	..	1 mile.
South chimney of house	81	38	..	1 mile.
South gable of house near Cliffs Landing	93	34	..	3¼ miles.
North gable of barn	115	23	..	3¼ miles.
North gable of barn	130	38	..	3¼ miles.
South gable of barn	170	12	..	2⅜ miles.
Left tangent of Gum Point	212	10	..	⅝ mile.
North gable of barn	220	28	..	¾ mile.
South chimney of Harris house	347	39	..	⅜ mile.
REFERENCE STATION	356	22	00	40.97 meters.

INN.

General locality.—Eastern shore of Grays Inn Creek about ⅛ mile northwest of Chester River and ½ mile southeast of Island Point. (See Chart No. 30.)

Immediate locality.—Observed station is in a peach orchard about 4 feet above high water and 25 yards northeast of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 3 inches below base of monument.

References.—	°	′	″	
"Holton Point" (S 72° 50′ E)	0	00	00	2⅝ miles.
Nail in blaze in sycamore tree (30 inches diameter)	13	24	30	4.53 meters.
North cupola on barn	38	57	..	2½ miles.
Left tangent of woods on Hail Point	74	54	..	4½ miles.
East gable of Swatska barn	101	19	..	1¾ miles.
East chimney of house	119	02	..	½ mile.
East gable of Harris house	150	53	..	⅝ mile.
East gable of small house	175	15	..	⅝ mile.
Nail in blaze in peach tree (8 inches diameter)	252	41	50	11.71 meters.
Southwest corner of Earle bathhouse	359	28	..	3 miles.

HOLTON POINT.

General locality.—Eastern shore of Chester River on Holton Point at south side of entrance to Corsica River. (See Chart No. 30.)

Immediate locality.—Observed station is on low sand beach about on level with high water and ¼ mile west of small bathhouse. Cement monument marking reference station is 5.40 meters S 48° 06′ E of observed station.

Marks.—Observed station is nail in 3-inch cement-filled tile pipe with top about 6 inches below surface of ground, incased in cement bearing the legend "U. S. C. S.–1896." Reference station is center point of triangle on standard cement monument projecting 5 inches above surface of ground.

References.—	°	′	″	
"Bay Bush Point" (S 64° 15′ W)	0	00	00	2⅜ miles.
East chimney of house	19	49	..	3 miles.
Chimney of small house	27	23	..	3 miles.
East gable of barn	38	39	..	3⅛ miles.
East gable of small house	57	08	..	2¾ miles.
South gable of barn	67	37	..	2½ miles.
South gable of house	80	09	..	2⅝ miles.

References—Continued.	°	′	″	
East chimney of house	94	17	..	1¾ miles.
West chimney of house	130	52	..	2 miles.
South gable of corncrib	157	14	..	⅝ mile.
West gable of barn	184	04	..	1 mile.
REFERENCE STATION	247	38	20	5.40 meters.
Nail in blaze in persimmon tree (4 inches diameter)	321	38	00	28.35 meters.
North gable of barn	329	38	..	2⅛ miles.
North gable of barn	343	06	..	4⅜ miles.
East gable of barn	357	02	..	4¼ miles.

EARLE.

General locality.—Southern shore of Corsica River on Town Bar Point about ½ mile east of Chester River and 100 yards north of Earle Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is on marsh land about 1 foot above high water, 5 yards south of shore, 19 yards north of a pond, and 100 yards north of Earle Wharf.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Hydrographic" (S 64° 38′ E)	0	00	00	½ mile.
Lone sycamore tree	10	43	..	¼ mile.
East chimney of house	18	56	..	½ mile.
Southeast pile at end of Earle Wharf	48	59	..	100 yards.
Nail in blaze in locust tree (5 inches diameter)	63	18	00	12.92 meters.
Nail in blaze in locust tree (3 inches diameter)	87	58	50	11.07 meters.
Earle windmill	118	07	..	300 yards.
East gable of barn	165	21	..	3⅝ miles.
East gable of small house	179	26	..	2¾ miles.
Church steeple at Crosby	196	20	..	3¾ miles.
South gable of Brown house	209	09	..	2¼ miles.
West chimney of house	244	53	..	⅝ mile.
South gable of Emory barn	298	08	..	¾ mile.
West chimney of house	338	10	..	1⅞ miles.

HYDROGRAPHIC.

General locality.—Southern shore of Corsica River about 1⅛ miles east of Chester River and ½ mile east of Earle Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is near edge of cultivated field about 3 feet above high water, 20 yards south of shore, 4 yards south of edge of bank 3 feet high, and 400 yards north of lone sycamore tree.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Earle" (N 64° 37′ W)	0	00	00	⅝ mile.
Church steeple at Crosby	14	03	..	4¼ miles.
East gable of barn	19	13	..	3½ miles.
South gable of barn	33	12	..	¾ mile.
South gable of Emory barn	73	18	..	⅝ mile.

References—Continued.	°	′	″		
Southwest corner of Emory Wharf house	75	44	..	.....	½ mile.
West gable of barn	114	51	..	.....	¾ mile.
West gable of barn	135	37	..	.....	1⅝ miles.
West chimney of house	148	56	..	.....	1¼ miles.
East chimney of house	231	23	..	.....	¾ mile.
Nail in blaze in apple tree (12 inches diameter)	327	14	30	.....	10.00 meters.
Southeast corner of Earle Wharf house	354	51	..	.....	½ mile.

RUTH.

General locality.—Southern shore of Corsica River about 1½ miles east of Chester River and ⅛ mile northwest of entrance to Tilghmans Cove. (See Chart No. 30.)

Immediate locality.—Observed station is in cultivated field about 15 feet above high water, 10 yards south of shore, 2 yards west of edge of slope, and 6 yards south of edge of slope.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Hydrographic" (N 82° 13′ W)	0	00	00	.....	⅜ mile.
East chimney of Earle tenant house	0	11	..	.....	1 mile.
South gable of Sissel barn	36	30	..	.....	1 mile.
Southeast corner of Emory Wharf house	54	13	..	.....	⅝ mile.
South gable of Emory barn	60	05	..	.....	¾ mile.
Chimney of Emory house	64	17	..	.....	¾ mile.
East post of front porch of house	109	34	..	.....	¾ mile.
Nail in blaze in oak tree (24 inches diameter)	119	49	10	.....	9.98 meters.
Nail in blaze in cedar tree (6 inches diameter)	223	53	20	.....	14.30 meters.
East gable of small barn	308	56	..	.....	⅜ mile.
Lone sycamore tree	319	36	..	.....	¾ mile.

MELFIELD.

General locality.—Southern shore of Corsica River about 1⅞ miles east of Chester River, 1 mile southeast of Emory Wharf, and ⅛ mile east of entrance to Tilghmans Cove. (See Chart No. 30.)

Immediate locality.—Observed station is in cultivated field about 18 feet above high water, 10 yards south of shore, 5 yards south of edge of bluff, and 10 yards west of a ravine.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Ruth" (N 71° 32′ W)	0	00	00	.....	⅜ mile.
East gable of barn	11	02	..	.....	5 miles.
Left tangent of Emory Wharf	29	50	..	.....	⅞ mile.
East chimney of Emory house	38	10	..	.....	1 mile.
Southwest corner of house	74	26	..	.....	¾ mile.
Cupola on Emory Wharf house	96	53	..	.....	1⅛ miles.
Nail in blaze in walnut tree (8 inches diameter)	119	34	10	.....	3.81 meters.
Nail in blaze in gum tree (7 inches diameter)	179	56	10	.....	16.18 meters.
West gable of barn	195	19	..	.....	⅜ mile.
Nail in blaze in locust tree (6 inches diameter)	336	32	10	.....	13.85 meters.
South chimney of Earle house	350	42	..	.....	1⅜ miles.

BATH.

General locality.—Southern shore of Corsica River on Wash Point about 2 miles east of Chester River, ½ mile west of Rocky Point, and ¼ mile southeast of Ship Point. (See Chart No. 30.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 15 yards east of shore, 13 yards west of a pond, and surrounded by dense growth of bushes.

Marks.—Observed station is center point of triangle on standard cement monument projecting 8 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Melfield" (S 30° 54′ W)	0	00	00	½ mile.
Left tangent of peak of barn	24	38	..	1 mile.
Earle windmill	53	43	..	1⅝ miles.
Left edge of Earle Wharf house	56	38	..	1½ miles.
East chimney of house	86	14	..	1 mile.
South chimney of house	120	55	..	⅜ mile.
West chimney of house	217	12	..	¾ mile.
North one of two cedar trees on hill	267	01	..	¼ mile.
Nail in blaze in hackberry tree (12 inches diameter)	326	23	50	3.06 meters.
Nail in blaze in pear tree (15 inches diameter)	345	11	50	6.79 meters.

SHIP.

General locality.—Northern shore of Corsica River on Ship Point at west side of entrance to Emorys Creek, about 1⅞ miles east of Chester River, and ⅝ mile east of Emory Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is on a marsh point covered with bushes about 1 foot above high water, 6 yards west of shore, and 75 yards south of a cedar tree covered with grape vines.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Ruth" (S 39° 11′ W)	0	90	00	⅝ mile.
North gable of barn	3	22	..	¾ mile.
Earle windmill	40	59	..	1½ miles.
Left edge of Earle Wharf house	43	35	..	1¼ miles.
East gable of barn	128	34	..	¼ mile.
Nail in blaze in cedar tree (7 inches diameter)	144	33	30	12.52 meters.
West gable of barn	217	05	..	1¼ miles.
West chimney of house	220	00	..	1¼ miles.
North chimney of house	229	59	..	1¼ miles.
West chimney of house	251	20	..	¾ mile.

ENGINEER.

General locality.—Northern shore of Corsica River about 1 mile east of Chester River, ⅝ mile northeast of Earle Wharf, and 50 yards west of Emory Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is on marsh land about 1 foot above high water, 12 yards north of shore, 50 yards west of Emory Wharf, and 50 yards southeast of a pond.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Ruth" (S 29° 36′ E)	0	00	00	.....	⅝ mile.
East chimney of house	29	31	..	.....	⅞ mile.
Nail in blaze in pear tree (6 inches diameter)	70	38	40	.....	99.95 feet.
Earle windmill	90	13	..	.....	⅞ mile.
Lone cedar tree	165	42	..	.....	125 yards.
South gable of Emory barn	219	59	..	.....	300 yards.
East chimney of Emory house	257	47	..	.....	250 yards.
West chimney of house	317	59	..	.....	1⅛ miles.
Northeast corner of Emory Wharf house	321	35	..	.....	156.94 feet.

SWEPSON.

General locality.—Northern shore of Corsica River opposite Town Bar Point about ½ mile east of Chester River, ⅜ mile north of Earle Wharf, and ⅜ mile west of Emory Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is on marsh land about 1 foot above high water, 12 yards north of shore, 10 yards south of lone cedar tree, and 12 yards east of small ditch draining swamp.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Hydrographic" (S 32° 06′ E)	0	00	00	.....	⅛ mile.
East chimney of house	6	32	..	.....	¾ mile.
Chimney of house	44	28			⅞ mile.
Earle Windmill	71	46	..	.....	½ mile.
Nail in blaze in cedar tree (15 inches diameter)	230	15	30	.....	9.50 meters.
South gable of Emory barn	282	58	..	.....	½ mile.
West gable of barn	332	36	..	.....	1¾ miles.
North chimney of small house	355	19	..	.....	1½ miles.
Chimney of small house	357	28	..	.....	2½ miles.

CORSICA.

General locality.—Eastern shore of Chester River at north side of entrance to Corsica River about ⅜ mile south of Lower Spaniard Point. (See Chart No. 30.)

Immediate locality.—Observed station is in a cultivated field about 7 feet above high water, 16 yards east of shore, 11 yards east of edge of bank, and 5 yards south of young peach orchard.

Marks.—Observed station is center point of triangle on standard cement monument projecting 7 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Swepson" (S 54° 31′ E)	0	00	00	.....	½ mile.
North chimney of house	19	17	..	.....	1½ miles.
Earle windmill	52	39	..	.....	¾ mile.
Northeast corner of Earle bathhouse	54	01	..	.....	¾ mile.
Left tangent of woods on Gordon Point	93	59	..	.....	2¾ miles.
Chimney of small house	145	49	..	.....	3⅜ mile.
South gable of barn	187	43	..	.....	2¼ miles.
West gable of cornerib	318	25	..	.....	½ mile.
Locust tree (24 inches diameter)	359	07	..	.....	150 yards.

DEEP COVE.

General locality.—Western shore of Chester River on point at west side of entrance to Langford Creek and south side of entrance to Deep Cove. (See Chart No. 30.)

Immediate locality.—Observed station is on marsh land about 1 foot above high water, 10 yards inshore, 50 yards east of a dead tree 2 feet in diameter, 80 yards southeast of a tall poplar tree, and 300 yards east of a house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Gordon" (S 6° 44′ E)	0	00	00	2¾ miles.
East pine tree of group on Piney Point	5	25	..	3½ miles.
Spindle on gable of barn	47	08	..	1⅞ miles.
Lone poplar tree	59	20	..	¼ mile.
Northeast corner of Ashley house	87	57	..	300 yards.
Southeast corner of fishing shack	124	34	..	200 yards.
Lone pine tree	136	01	..	¼ mile.
South gable of house	193	59	..	1⅛ miles.
West chimney of house	200	47	..	1⅛ miles.
West gable of barn	243	30	..	1 mile.
North chimney of house at Cliffs Landing	256	16	..	2 miles.
North gable of barn	288	41	..	2¾ miles.
Southwest corner of Earle bathhouse	307	09	..	2⅝ miles.
North gable of barn	355	07	..	2⅝ miles.

LANGFORD.

General locality.—Western shore of Chester River on Nichols Point at east side of entrance to Langford Creek. (See Chart No. 30.)

Immediate locality.—Observed station is on a sandy point among persimmon trees about 2 feet above high water, 12 yards inshore, and 200 yards south of a marsh.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Gordon" (S 10° 42′ W)	0	00	00	2⅝ miles.
East one of group of four pine trees	2	21	..	3¼ miles.
East chimney of house	45	45	..	2½ miles.
Chimney of small house	56	27	..	2¼ miles.
Nail in blaze in persimmon tree (6 inches diameter)	72	02	30	4.59 meters.
East chimney of house	87	27	..	1 mile.
South gable of barn	115	53	..	1⅝ miles.
South chimney of house	141	02	..	1½ miles.
Chimney of house	152	40	..	1½ miles.
Nail in blaze in persimmon tree (6 inches diameter)	218	39	20	2.23 meters.
Nail in blaze in persimmon tree (4 inches diameter)	287	15	30	7.63 meters.
Northwest corner of Earle bathhouse	299	00	..	1¾ miles.
Cupola on barn	332	26	..	2 miles.
North gable of house	346	57	..	2¼ miles.

SPANIARD POINT 2 UPPER.

General locality.—Southeastern shore of Chester River on Lower Spaniard Point about 1¼ miles east of Nichols Point, ⅞ mile south of Cliffs Landing, and ½ mile southwest of Spaniard Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is on a sand beach about 1 foot above high water, 8 yards southeast of shore, and 300 yards northwest of woods. Cement monument marking reference station is 11.72 meters S 70° 51′ E of observed station.

Marks.—Observed station is nail in 3-inch cement-filled tile pipe bearing the legend "U. S. C. S.—1896," with top 6 inches below surface of ground. Reference station is center point of triangle on standard cement monument projecting 6 inches above surface of ground.

References.—	°	′	″		
"Langford" (N 87° 27′ W)	0	00	00	.....	1¼ miles.
South gable of barn	2	44	..	.....	2⅞ miles.
East gable of barn	16	10	..	.....	2⅜ miles.
Church steeple	29	25	..	.....	3 miles.
West chimney of Brown house	37	38	..	.....	1⅜ miles.
West chimney of house	76	08	..	.....	1 mile.
Right tangent of piles of Cliffs Landing	100	40	..	.....	⅞ mile.
South gable of house	101	05	..	.....	1⅛ miles.
"Westcotts Windmill"	117	31	..	.....	2¼ miles.
REFERENCE STATION	196	36	50	.....	11.72 meters.
North gable of barn	295	57	..	.....	3 miles.
Right tangent of woods on Gordon Point	302	00	..	.....	3 miles.
East chimney of house on Grays Inn Creek	352	39	..	.....	3⅜ miles.

QUAKER.

General locality.—Western shore of Chester River in Cliff Bight about ¾ mile north of Nichols Point. (See Chart No. 30.)

Immediate locality.—Observed station is on marsh land about 3 feet above high water, 8 yards northwest of shore, 8 yards southeast of a wire fence and a row of pear trees, and 6 yards south of a group of persimmon trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Brown" (N 80° 42′ E)	0	00	00	.....	⅞ mile.
West gable of barn	15	05	..	.....	2½ miles.
Left tangent of Spaniard Wharf	24	17	..	.....	1¼ miles.
Northeast corner of Earle house	70	08	..	.....	2 miles.
North gable of house near Reeds Creek	102	24	..	.....	3¼ miles.
Right tangent of woods on Gordon Point	114	37	..	.....	3½ miles.
Lone oak tree	147	43	..	.....	½ mile.
Nail in blaze in hackberry tree (6 inches diameter)	203	08	30	.....	4.81 meters.
Nail in blaze in persimmon tree (8 inches diameter)	319	19	00	.....	3.43 meters.
West chimney of house	351	40	..	.....	⅞ mile.

EVANS.

General locality.—Southeastern shore of Chester River on Upper Spaniard Point about ⅝ mile south of Cliffs Landing and ⅛ mile northeast of Spaniard Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is on marsh land about 1 foot above high water, 10 yards north of shore, and 200 yards east of end of Spaniard Wharf.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Chester" (S 80° 13′ E)	0	00	00	.....	¾ mile.
Lone walnut tree (6 inches diameter)	106	17	..	.....	200 yards.
South gable of fishing shack near shore	136	00	..	.....	⅛ mile.
"Spaniard Wharf 1896" (old triangulation station)	124	49	30	.....	2.49 meters.
Right tangent of piles at end of Spaniard Wharf	167	23	..	.....	250 yards.

References—Continued.	°	′	″		
North chimney of house	189	26	..	.....	1½ miles.
West chimney of house	212	13	..	.....	1⅛ miles.
Chimney of Martin cabin	219	20	..	.....	¾ mile.
North gable of Cliffs Landing house	234	31	..	.....	¾ mile.
East chimney of house	247	28	..	.....	⅞ mile.
North gable of barn	276	23	..	.....	1¾ miles.
"Westcott Windmill"	282	55	10	.....	1¾ miles.
East gable of barn	308	31	..	.....	1⅛ miles.
North gable of barn	318	03	..	.....	2¼ miles.
East gable of barn	348	39	..	.....	1¼ miles.

BROWN.

General locality.—Northwestern shore of Chester River on Cliffs Point between Cliffs Bight and Commegys Bight about ¼ mile west of Cliffs Landing. (See Chart No. 30.)

Immediate locality.—Observed station is in a cultivated field about 12 feet above high water, 25 yards north of shore, 7 yards north of edge of bank, and 45 yards southeast of a large cherry tree.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Deep Point 2" (N 80° 15′ E)	0	00	00	.....	1⅜ miles.
West gable of barn	4	49	..	.....	2½ miles.
West chimney of house	22	55	..	.....	1¾ miles.
North gable of small fishing shack	82	04	..	.....	¾ mile.
North gable of barn	115	26	..	.....	3½ miles.
Nail in blaze in locust tree (5 inches diameter)	157	07	10	.....	13.55 meters.
Nail in blaze in walnut tree (15 inches diameter)	209	09	50	.....	14.13 meters.
East gable of house	220	55	..	.....	300 yards.
East gable of barn	334	04	..	.....	300 yards.
West chimney of house	338	33	..	.....	1½ miles.
Northwest corner of Martin shack	343	03	..	.....	77 yards.
West gable of wharf house	355	27	..	.....	¼ mile.

STRATTON.

General locality.—Northwestern shore of Chester River at west side of entrance to Commegys Bight near Cliffs Landing and about ¼ mile northeast of Cliffs Point. (See Chart No. 30.)

Immediate locality.—Observed station is on marsh land about on level with high water, 5 feet north of shore, and 21 yards southwest of entrance to a small creek.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Deep Point 2" (N 83° 53′ E)	0	00	00	.....	1¾ miles.
Cupola on barn	7	50	..	.....	2 miles.
West gable of corn crib	23	27	..	.....	1½ miles.
Southwest corner of wharf house	82	04	..	.....	100 yards.
North gable of house	114	03	..	.....	3 miles.
Right tangent of woods on Gordon Point	125	14	..	.....	3⅜ miles.
Pine tree on line with bulkhead of wharf	154	29	..	.....	100 yards.
North chimney of house	266	37	..	.....	400 yards.
West gable of Westcott barn	319	58	..	.....	1¼ miles.
West gable of barn	340	32	..	.....	1¼ miles.

CHESTER.

General locality.—Southeastern shore of Chester River about ¾ mile east of Upper Spaniard Point and ⅞ mile south of Deep Point. (See Chart No. 30.)

Immediate locality.—Observed station is in a low meadow about 2 feet above high water, 10 yards south of shore, 2 yards south of board and wire fence, 2 yards east of rail fence, and 35 yards northwest of gate to front yard of a house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Evans" (N 80° 12′ W)	0	00	00	¾ mile.
South chimney of house	6	21	..	2¼ miles.
East gable of Cliffs Landing house	23	38	..	1⅛ miles.
East gable of house	35	11	..	1½ miles.
Chimney of house	51	47	..	1⅛ miles.
South chimney of Westcott house	76	43	..	1⅝ miles.
West gable of barn	85	17	..	1 mile.
Left tangent of piles of Indiantown Wharf	116	41	..	1¼ miles.
South cupola of barn	139	37	..	1¼ miles.
West chimney of Emory house	158	45	..	¼ mile.
West chimney of Emory tenant house	218	16	..	100 yards.
Nail in blaze in persimmon tree (6 inches diameter)	247	33	10	11.67 meters.
Nail in blaze in locust tree (12 inches diameter)	328	54	50	24.18 meters.

WESTCOTTS WINDMILL.

General locality.—Northwestern side of Chester River about ⅛ mile inshore from northern end of Commegys Bight and 1⅜ miles northeast of Cliffs Landing. (See Chart No. 30.)

Immediate locality.—Observed station is about 35 feet in height on a barn and near a water tank back of barn.

Marks.—Observed station is center point of windmill.

References.—None necessary.

CORPSE.

General locality.—Southeastern shore of Chester River about ⅜ mile southeast of Deep Point, 1½ miles east-northeast of Spaniard Wharf and ⅝ mile southwest of Indiantown Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is on a sanded marsh strip about 1 foot above high water, 3 yards east of shore, 18 yards south-southeast of a point, 43 yards north by east of another point, and ⅛ mile west of a large house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Chester" (S 39° 24′ W)	0	00	00	⅞ mile.
Right tangent of Spaniard Wharf	30	29	..	1½ miles.
Chimney of house near Cliffs Landing	61	43	..	1¾ miles.
Right peak of house on Deep Point	83	48	..	½ mile.
Left one of two chimneys on south end of brick house	147	03	..	1 mile.
Left tangent of Indiantown Wharf	173	17	..	⅝ mile.
Chimney of ell of house near Indiantown Wharf	181	53	..	⅝ mile.
Left tangent of large house	228	11	..	¼ mile.
Right chimney of house	297	55	..	⅜ mile.
Chimney outside of old house	359	07	..	⅞ mile.

DEEP POINT 2.

General locality.—Northwestern shore of Chester River on Deep Point about 1¼ miles east of Cliffs Landing, 1¼ miles northeast of Spaniard Wharf, and ¾ mile west of Indiantown Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is about 1 foot above high water, among several cedar and poplar trees on a point, 13 yards northeast of shore, 21 yards southwest by west of shore, 40 yards northwest of extreme end of point, and 120 yards southeast of a 1½-story house. Cement monument marking reference station is on line with west end of house 17.14 meters N 53° 52′ W of observed station.

Marks.—Observed station is nail in center of 2-inch tile pipe set in cement with top 2 inches below surface of ground. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″	
"Thorn" (N 40° 10′ E)	0	00	00	¾ mile.
Left chimney of house	11	43	..	3¾ miles.
Left tangent of Ashland Wharf	13	04	..	1⅜ miles.
Near chimney on west peak of house	22	58	..	2½ miles.
Southwest peak of house near Indiantown Wharf	31	23	..	⅞ mile.
Nail in blaze in branch of cedar tree (15 inches diameter)	45	27	00	11.48 meters.
Cupola on barn	61	43	..	1 mile.
Nail in blaze in poplar tree (11 inches diameter)	93	54	00	15.02 meters.
Largest one of three chimneys of house	102	07	..	1¼ miles.
Chimney of brick house	153	25	..	1 mile.
Chimney on near peak of house	233	39	..	1¼ miles.
REFERENCE STATION	265	58	20	17.14 meters.
Nail in blaze in poplar tree (10 inches diameter)	266	00	20	17.78 meters.
Right tangent of back of Westcott house	279	56	..	120 yards.
Nail in blaze in branch of double tree (8 inches diameter)	340	43	00	19.74 meters.

INDIAN.

General locality.—Southeastern shore of Chester River near Indiantown Wharf about ¾ mile east-northeast of Deep Point. (See Chart No. 30.)

Immediate locality.—Observed station is about 2 feet above high water, 10 yards east of shore end of Indiantown Wharf, 10 yards southeast of shore, 21 yards north of curved fence of yard of a small house, and 40 yards north by west of a house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Corpse" (S 38° 10′ W)	0	00	00	⅝ mile.
Right tangent of Spaniard Wharf	22	40	..	2 miles.
Right chimney of Westcott bungalow	34	55	..	¾ mile.
Near corner of wharf house	72	50	..	100 yards.
Left tangent of Massey brick house	96	48	..	½ mile.
Large chimney of house beyond trees	146	08	..	1 mile.
Chimney of small house near Quaker Neck Wharf	161	24	..	1¼ miles.
Left tangent of Ashland Wharf	176	19	..	⅝ mile.
Lone cedar tree	182	24	..	120 yards.
Nail in blaze in cedar tree (12 inches diameter)	287	43	30	31.24 meters.

References—Continued.	°	′	″		
Near corner of house	288	24	..	.....	5/8 mile.
Nail in blaze in cedar tree (10 inches diameter)	305	59	10	.....	18.68 meters.
Nail in blaze in cedar tree (20 inches diameter)	319	41	10	.....	30.92 meters.
Right tangent of curved fence	324	40	..	.....	40 yards.
Chimney of large house	334	58	..	.....	½ mile.

THORN.

General locality.—Northwestern shore of upper Chester River opposite White Cove near Westcott Wharf and about ¾ mile northeast of Deep Point. (See Chart No. 30.)

Immediate locality.—Observed station is in a cultivated field about 6 feet above high water, 15 yards northwest of shore, 5 yards southwest of corner of board fence, 60 yards south-southeast of a brick house, and 42 yards southwest of piles of old wharf at shore line.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Shippen" (N 43° 17′ E)	0	00	00	.....	½ mile.
Near peak of large house	18	40	..	.....	4½ miles.
Left tangent of Ashland Wharf	23	21	..	.....	5/8 mile.
Corner post of fence (4 inches diameter)	33	23	10	.....	4.33 meters.
Cupola of barn	104	13	..	.....	7/8 mile.
Chimney of small house	159	09	..	.....	1¾ miles.
Near corner of Massey house	208	40	..	.....	1/8 mile.
Nail in blaze in peach tree (6 inches diameter)	283	57	22	.....	13.74 meters.
Nail in blaze in fence post (3 inches diameter)	338	27	20	.....	5.35 meters.

ASHLAND.

General locality.—Southeastern shore of upper Chester River near Ashland Wharf and about ¼ mile northeast of White Cove. (See Chart No. 30.)

Immediate locality.—Observed station is about 1 foot above high water, 5 yards southeast of shore, 32 yards southwest of a fence, and 20 yards west-northwest of persimmon trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Indian" (S 43° 29′ W)	0	00	00	.....	½ mile.
Right tangent of Indiantown Wharf	5	44	..	.....	½ mile.
Chimney on ell of Massey house	37	46	..	.....	5/8 mile.
Chimney of small house	116	46	..	.....	¾ mile.
Peak of Quaker Neck Wharf house	145	43	..	.....	¾ mile.
Nail in blaze in fence post (4 inches diameter)	171	12	50	.....	28.80 meters.
Nail in blaze in persimmon tree (3 inches diameter)	247	22	50	.....	22.81 meters.
Nail in blaze in persimmon tree (3 inches diameter)	289	34	10	.....	17.29 meters.
Chimney of summer house	356	04	..	.....	½ mile.

SHIPPEN.

General locality.—Northwestern shore of Upper Chester River on point at southern side of entrance to Shippen Creek and nearly opposite Ashland Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is on a sand and marsh point about 1 foot above high water, 6 yards southwest of shore, 12 yards northeast of shore, 15 yards north of extreme end of sand point, and 25 yards southeast of trees along edge of cultivated field.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Oyster" (N 38° 22′ E)	0	00	00	¾ mile.
Chimney on left end of house	18	37	..	2½ miles.
Peak of barn	26	49	..	2¾ miles.
Chimney on end of house	27	59	..	2¾ miles.
Chimney on right end of house	54	23	..	1 mile.
Left tangent of piles of Ashland Wharf	69	40	..	¼ mile.
Chimney on near end of house	79	08	..	1 mile.
Spindle on barn cupola	135	58	..	1 mile.
Tangent of piles at Indiantown Wharf	154	35	..	⅝ mile.
Tangent of Deep Point	182	24	..	1¼ miles.
Near chimney of house	189	40	..	½ mile.
Nail in blaze in pear tree (12 inches diameter)	263	35	40	22.59 meters.
Nail in blaze in cedar tree (10 inches diameter)	292	46	10	20.70 meters.
Near peak of barn	341	44	..	⅝ mile.
Smoke pipe on Quaker Neck Wharf house	359	56	..	⅝ mile.

BURNS.

General locality.—Southeastern shore of upper Chester River opposite Quaker Neck Wharf, about ½ mile northeast of Ashland Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is in meadow land about 1 foot above high water, 10 yards southeast of shore, 50 yards southwest by south of point, 145 yards northeast by east of a fence, and 200 yards northwest of another fence.

Marks.—Observed station is center point of triangle on standard cement monument projecting 7 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Ashland" (S 45° 22′ W)	0	00	00	⅝ mile.
Chimney of house on Westcott Wharf	18	36	..	1¼ miles.
South peak of large barn	78	48	..	⅝ mile.
Near chimney of Quaker Neck Wharf house	89	20	..	½ mile.
Left chimney of old house	108	41	..	
Left tangent of hook-shaped point of marsh	183	22	..	¼ mile.
Near peak of house	196	25	..	1½ miles.
Windmill	234	22	30	¾ mile.
Chimney of house	280	56	..	1 mile.
Left chimney of house on Ashland Road	323	57	..	1 mile.

OYSTER.

General locality.—Northwestern shore of upper Chester River about ⅛ mile northeast of Quaker Neck Wharf and ¼ mile southwest of entrance to Jarretts Creek. (See Chart No. 30.)

Immediate locality.—Observed station is in a cultivated field about 20 feet above high water, 8 yards west-northwest of edge of bank, 9 yards north-northwest of edge of bank, 25 yards northeast by north of a cedar tree, 100 yards southwest of lowland, and 115 yards east of fence near a house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Jarrett" (N 67° 48′ E)	0	00	00	⅝ mile.
Left peak of Bookers Wharf house	21	00	..	1⅛ miles.
Cupola	50	14	..	1 mile.
Windmill	50	55	..	⅞ mile.
Left chimney of house	107	14	..	1¾ miles.
Cupola on barn	123	50	..	1¾ miles.
Nail in blaze in cedar tree (7 inches diameter)	143	13	30	24.90 meters.
Smoke pipe of wharf house	151	03	..	⅛ mile.
Left chimney of house	180	43	..	130 yards.
Left chimney of old house on near side of Jarretts Creek	277	29	..	⅜ mile.
Chimney of house among trees	309	06	..	1¼ miles.

STARKLEY.

General locality.—Southeastern shore of upper Chester River about ¾ mile east of Quaker Neck Wharf, and ½ mile southwest of Bookers Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is in meadow land about 1 foot above high water, 10 yards east by south of shore, 33 yards south of first cut in shore, 140 yards north by west of a fence, 145 yards southwest of point where another fence meets shore, and 275 yards south of large cedar tree.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Burns" (S 61° 34′ W)	0	00	00	½ mile.
Left chimney of Quaker Neck Wharf house	39	02	..	⅞ mile.
Right peak of barn	66	43	..	1 mile.
Peak of middle dormer window of large house	114	30	..	¾ mile.
Left peak of large house	163	49	..	1¼ miles.
Left peak of Bookers Wharf house	187	48	..	½ mile.
Large cedar tree	191	11	..	275 yards.
Spindle on left cupola of barn	262	00	20	½ mile.
Weathervane on barn	320	01	50	½ mile.

JARRETT.

General locality.—Northwestern shore of upper Chester River about ⅝ mile southwest of Melton Point, ¼ mile east of entrance to Jarretts Creek, and ⅝ mile west of Bookers Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is about 1 foot above high water, 14 yards north of shore, 50 yards from a short fence at shore, 65 yards west of entrance to slough, and 175 yards from another fence.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Melton" (N 61° 34′ E)	0	00	00	⅝ mile.
Left peak of house on ridge	1	35	..	1⅛ miles.
Right peak of small house	47	58	..	¾ mile.
West peak of Bookers Wharf house	48	50	..	⅝ mile.
Spindle on left cupola on barn	96	01	..	¾ mile.
Weathervane on cupola on barn	125	48	..	1 mile.
Chimney of house near Indiantown Wharf	155	29	..	1⅞ miles.
Large chimney of Massey brick house	169	16	..	1⅞ miles.
Smokepipe of Quaker Neck Wharf house	182	50	..	¾ mile.
Peak of middle dormer window of large house	299	07	..	½ mile.

BOOKER.

General locality.—Southeastern shore of upper Chester River about 175 yards northeast of Bookers Wharf and ½ mile south of Melton Point. (See Chart No. 30.)

Immediate locality.—Observed station is on sanded marsh land about 1 foot above high water, 6 yards southeast of shore, 13 yards east by south of a small point, 30 yards southwest by south of locust trees, 125 yards northwest by north of a house on 20-foot bank, and 140 yards northwest of a creek.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Starkley" (S 67° 55′ W)	0	00	00	.....	⅝ mile.
Left chimney of Quaker Neck Wharf house	17	46	..	.....	1½ miles.
Near peak of house in woods	53	23	..	.....	¾ mile.
Peak of middle dormer window on left side of house among trees	68	05	..	.....	⅞ mile.
Chimney of house	113	38	..	.....	1 mile.
Nail in blaze in locust tree (4 inches diameter)	182	23	40	.....	29.46 meters.
Near peak of house on bank	293	48	..	.....	125 yards.
Right peak of Bookers Wharf house	350	47	..	.....	175 yards.

JOURNEY.

General locality.—Eastern shore of upper Chester River opposite Melton Point about ½ mile northeast of Bookers Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is in cultivated land about 20 feet above high water, 3 yards southeast by east of edge of bank, south of large elm tree, and northeast of several sycamore and locust trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Booker" (S 28° 15′ W)	0	00	00	.....	½ mile.
Right peak of Bookers Wharf house	4	24	..	.....	½ mile.
Smokepipe of Quaker Neck Wharf house	41	21	..	.....	1⅝ miles.
Near peak of house with three dormer windows	77	01	..	.....	⅞ mile.
Right chimney of 2½-story house	107	02	..	.....	1¼ miles.
Nail in blaze in elm tree (10 inches diameter)	134	27	40	.....	22.70 meters.
Large cedar tree in yard near fence	187	30	..	.....	400 yards.
Near peak of old house	318	16	..	.....	200 yards.
Nail in blaze in sycamore tree (8 inches diameter)	355	05	00	.....	21.00 meters.

MELTON.

General locality.—Western shore of upper Chester River on Melton Point about ½ mile north of Bookers Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is about 2 feet above high water, 4 yards south of shore, 40 yards north of shore, 32 yards northwest of extreme end of point, 2 yards northeast of marsh, and 125 yards east-southeast of clump of cedar trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References. –	°	′	″	
"Pomona" (N 53° 38′ W)	0	00	00	⅝ mile.
Right chimney of house on knoll	17	17	..	1⅛ miles.
Right peak of roof of building	68	07	..	⅝ mile.
Left chimney of house	118	37	..	⅞ mile.
Northwest chimney of house on bank near Bookers Wharf	219	20	..	½ mile.
Northwest peak of Bookers Wharf house	226	38	..	½ mile.
Smoke pipe of Quaker Neck Wharf house	296	40	..	1¼ miles.
Near chimney of house with dormer windows	346	50	..	⅝ mile.

CAKE.

General locality.—Eastern shore of upper Chester River about ⅜ mile north of Melton Point and ⅞ mile north of Bookers Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is in a marsh about 1 foot above high water, 13 yards east-southeast of shore, 35 yards northeast by north of shore, 35 yards northeast of rounded point, 150 yards north-northwest of entrance to a creek, 200 yards south-southwest of buildings, and 300 yards south of a house among trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References. –	°	′	″	
"Journey" (S 36° 29′ E)	0	00	00	½ mile.
Chimney on ell of house to left of trees	3	40	..	⅝ mile.
Northwest peak of Bookers Wharf house	38	53	..	⅞ mile.
South chimney of near one of twin houses	142	49	..	¾ mile.
East chimney of brick house among trees on ridge	169	16	..	1⅛ miles.
South peak of building	229	41	..	¼ mile.
Large lone tree on ridge	299	10	..	¼ mile.
Left chimney of large house	324	39	..	¼ mile.

POMONA.

General locality.—Western shore of upper Chester River about ⅝ mile northwest of Melton Point and ¼ mile south of entrance to Browns Creek. (See Chart No. 30.)

Immediate locality.—Observed station is among small trees near edge of cultivated field, about 12 feet above high water, 6 yards west of edge of bank, and 8 yards from top of slope to marsh.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Taste" (N 5° 30′ W)	0	00	00	½ mile.
Nail in blaze in locust tree (3 inches diameter)	14	28	20	5.23 meters.
Windmill	52	29	30	2 miles.
Right corner of house	71	49	..	1¼ miles.
Large lone tree in field	93	20	..	1¼ miles.
Left chimney of large house	103	47	..	1⅜ miles.
Ell of house to left of trees	126	48	..	1⅜ miles.
Nail in blaze in locust tree (4 inches diameter)	107	10	50	7.74 meters.
Nail in blaze in cedar tree (8 inches diameter)	196	39	40	12.18 meters.
Large cherry tree	277	32	..	300 yards.

BILL.

General locality.—Eastern shore of upper Chester River about ¾ mile north of Melton Point and nearly opposite Browns Creek. (See Chart No. 30.)

Immediate locality.—Observed station is in grove of elm, ash, and oak trees on north side of a point about 20 feet above high water, 7 yards south-southeast of edge of bank, 30 yards east-northeast of a small house, and 40 yards west-southwest of a fence.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Cake" (S 15° 41′ E)	0	00	00	⅜ mile.
Right peak of Bookers Wharf house	12	04	..	1¼ miles.
Nail in blaze in elm tree (10 inches diameter)	20	43	40	12.37 meters.
Nail in blaze in elm tree (9 inches diameter)	69	23	10	9.92 meters.
Nail in blaze in oak tree (24 inches diameter)	129	28	40	2.95 meters.
East chimney of brick house	137	29	..	¾ mile.
Peak of sharp roof	155	53	..	1 mile.
"Robertson Windmill"	243	52	40	2¼ miles.
Spindle on peak of house on Rolphs Wharf	247	37	40	2¾ miles.
Nail in blaze in tree (8 inches diameter)	280	24	50	7.60 meters.
Left chimney of house on ridge	322	17	..	¾ mile.
Nail in blaze in tree (15 inches diameter)	343	25	10	12.30 meters.
Chimney on ell of house	349	32	..	1 mile.

TASTE.

General locality.—Western shore of upper Chester River on point at east side of entrance to Browns Creek, about 1 mile northwest of Melton Point. (See Chart No. 30.)

Immediate locality.—Observed station is on a marsh point between Chester River and Browns Creek, about 5 yards north of shore of Chester River, 30 yards south of shore of Browns Creek, 50 yards southwest of point of shore of Browns Creek, and 55 yards west-southwest of cedar trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Make" (N 52° 14′ E)	0	00	00	⅜ mile.
Windmill	7	11	30	1¾ miles.
Chimney of house	25	20	..	1¾ miles.
Left chimney of house on ridge	68	58	..	1¼ miles.
Chimney on ell of house	84	20	..	1¾ miles.
West chimney of left one of twin houses	142	19	..	⅜ mile.
Right chimney of brick house	266	13	..	¾ mile.
Largest cedar tree in clump (15 inches diameter)	350	28	00	54 yards.

MAKE.

General locality.—Western shore of upper Chester River about 1⅛ miles north of Melton Point and ⅜ mile northeast of entrance to Browns Creek. (See Chart No. 30.)

Immediate locality.—Observed station is in pasture land about 2 feet above high water, 10 yards north of shore, 110 yards west of tangent of point of curve of shore, and 325 yards southeast of farm buildings behind trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Broad" (N 61° 13′ E)	0	00	00		½ mile.
Windmill	0	22	30		1½ miles.
Near peak of canning house at Wilmers Wharf	18	26	..		1⅜ miles.
Chimney on ell of house on ridge	45	45	..		1¼ miles.
Left chimney of house on ridge	80	05	..		1½ miles.
Spindle on cupola on barn	118	55	..		2¼ miles.
Left chimney of left one of twin houses	155	18	..		¾ mile.
West chimney of house	227	30	..		1 mile.
South peak of building in woods	307	04	..		1 mile.

DOWN.

General locality.—Southeastern shore of upper Chester River about 2 miles southwest of entrance to Southeast Creek and 1 mile east of entrance to Browns Creek. (See Chart No. 30.)

Immediate locality.—Observed station is on a small rounded point of sanded marsh about 1 foot above high water, 5 yards south of shore, 40 yards east by south of an inlet, and 95 yards west of a fence beyond trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Bill" (S 73° 52′ W)	0	00	00		½ mile.
East peak of large barn	33	37	..		1 mile.
Chimney of house	75	53	..		1½ miles.
"Robertson Windmill"	138	57	20		1 mile.
Right peak of small house near Rolphs Wharf	153	54	..		2¼ miles.
Left peak of taller of two barns	197	17	..		½ mile.
Nail in blaze in cedar tree (5 inches diameter)	232	06	10		52.50 meters.
Nail in blaze in cedar tree (5 inches diameter)	253	25	40		47.18 meters.
Nail in blaze in pear tree (3 inches diameter)	348	29	50		14.34 meters.

JULIUS.

General locality.—Southeastern shore of upper Chester River about ½ mile southwest of Wilmers Wharf. (See Chart No. 30.)

Immediate locality.—Observed station is on a sanded grass point fringed by cedar trees and about 2 yards south of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of manument.

References.—	°	′	″		
"Down" (S 56° 12′ W)	0	00	00		½ mile.
Chimney of left one of twin houses	10	37	..		1¼ miles.
Near peak of large barn	37	29	..		1 mile.
Middle one of three large trees	39	50	..		⅞ mile.
"Robertson Windmill"	130	23	30		1¼ miles.
South chimney of house at Rolphs Wharf	165	38	..		1⅝ miles.
Weather vane on large barn	176	18	..		1¼ miles.
Northwest peak of Wilmers Wharf cannery	187	53	..		⅜ mile.
Nail in blaze in cedar tree (8 inches diameter)	198	52	00		4.77 meters.
Nail in blaze in cedar tree (8 inches diameter)	318	06	20		4.30 meters.
Nail in blaze in cedar tree (9 inches diameter)	345	21	00		13.11 meters.

BROAD.

General locality.—Northwestern side of upper Chester River on an island at entrance to Broad Creek about 1 mile northeast of entrance to Browns Creek. (See Progress map.)

Immediate locality.—Observed station is on western end of a marsh island about 9 yards north of shore, 43 yards south of shore, and 52 yards east-southeast of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of manument.

References.—

	°	′	″	
"Nils" (N 80° 24′ E)	0	00	00	½ mile.
Near peak of cannery	7	17	..	1⅛ miles.
Chimney on ell of house on ridge	51	09	..	2¼ miles.
Right peak of barn	98	26	..	1 mile.
Peak of middle dormer window of large house	132	08	..	1½ miles.
East peak of large barn to left of large tree	190	34	..	1 mile.
"Robertson Windmill"	341	25	30	1½ miles.

NILS.

General locality.—Northwestern shore of upper Chester River about ¾ mile west of entrance to Southeast Creek and ¼ mile east of an island at entrance to Broad Creek. (See Progress map.)

Immediate locality.—Observed station is in edge of cultivated field about 5 feet above high water, 4 yards north of shore, 110 yards east by south of tangent of point of curve of shore, and 450 yards southwest of a house and windmill.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Robertson" (N 59° 04′ E)	0	00	00	½ mile.
Weather vane on southwest peak of largest barn on ridge	10	46	..	1½ miles.
North peak of Wilmers Wharf cannery	37	03	..	⅛ mile.
Chimney of house near Wilmers Wharf	41	52	..	½ mile.
West chimney of large house on ridge	133	32	..	1 mile.
Near peak of roof of house on hill	158	22	..	1 mile.
"Robertson Windmill"	336	55	..	½ mile.

WILMERS.

General locality.—Southeastern shore of upper Chester River on southwest side of entrance to Southeast Creek about 175 yards northeast of Wilmers Wharf. (See Progress map.)

Immediate locality.—Observed station is on a sanded grass point between river and marsh about 3 feet above high water, 7 yards east of shore, 5 yards southwest of shore, and 6 yards southeast of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Julius" (S 60° 34′ W)	0	00	00	½ mile.
Chimney on near one of twin houses	4	58	..	2⅛ miles.
East peak of large barn	27	14	..	1½ miles.
"Robertson Windmill"	74	09	30	⅝ mile.
Cupola on Robertson barn	83	23	..	½ mile.
Flagpole on Rolphs Wharf	154	06	20	1¼ miles.
Weather vane on large barn	169	23	..	1½ miles.
Cupola on barn	212	59	..	300 yards.
Cupola on barn	284	57	..	⅝ mile.
Right peak of Wilmers Wharf cannery	348	26	..	175 yards.

ROBERTSON WINDMILL.

General locality.—Northwestern side of upper Chester River opposite entrance to Southeast Creek about 1¼ miles southeast of Rolphs Wharf. (See Progress map.)

Immediate locality.—Observed station is windmill on high tower in rear of house.

Marks.—Observed station is center point of windmill.

References.—None necessary.

ROBERTSON.

General locality.—Northwestern shore of upper Chester River near Riverside Wharf opposite entrance to Southeast Creek. (See Progress map.)

Immediate locality.—Observed station is about 2 feet above high water, 5 yards northwest of shore, 45 yards northeast of shore end of a wharf, and 100 yards southwest of a point of land.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Thorsten" (N 52° 00′ E)	0	00	00	⅝ mile.
Weather vane on large barn	9	30	..	1¾ miles.
Cupola on old barn	50	31	..	1½ miles.
Chimney of house near Wilmers Wharf	97	11	..	⅜ mile.
Pinnacle on cupola on barn	105	15	..	½ mile.
Northwest peak of cannery	117	41	..	¼ mile.
Weather vane on cupola on barn	256	15	20	¼ mile.
Spindle on cupola on another barn	260	56	..	¼ mile.
Spindle on peak of Rolphs lower wharf house	359	29	..	1¼ miles.

SOUTHEAST.

General locality.—Southeastern shore of upper Chester River on Deep Point at northeastern side of entrance to Southeast Creek about ¾ mile south-southwest of Rolphs Wharf and ½ mile northeast of Wilmers Wharf. (See Progress map.)

Immediate locality.—Observed station is on cultivated land about 15 feet above high water, 19 yards south of edge of bank, 21 yards east by north of edge of bank, and 27 yards east by south of extreme point of bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Wilmers" (S 57° 46′ W)	0	00	00	¼ mile.
Right tangent of Wilmers Wharf	2	57	..	½ mile.
"Robertson Windmill"	34	41	20	¾ mile.
Spindle on cupola on barn	38	02	..	¾ mile.
Weather vane on cupola on barn	38	32	..	¾ mile.
Near peak of long small shanty	118	31	..	2 miles.
Left peak of large barn	134	39	..	1¼ miles.
Flagstaff on Rolphs Wharf house	140	54	10	⅞ mile.
Right peak of long barn	191	46	..	¾ mile.
Lightning rod between two chimneys on house	248	51	..	⅞ mile.
Right peak of Wilmers Wharf cannery	358	34	..	⅝ mile.

THORSTEN.

General locality.—Northwestern shore of upper Chester River about ¾ mile northeast of Wilmers Wharf and ½ mile north of entrance to Southeast Creek. (See Progress map.)

Immediate locality.—Observed station is about 3 feet above high water, 12 yards northwest of shore, 10 yards northeast of short fence, and 4 yards southeast of lone cedar tree.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Blank" (N 19° 37′ E)	0	00	00	⅜ mile.
Northwest peak of large barn	4	34	..	1¼ miles.
Northwest peak of large barn	21	09	..	1 mile.
Flagstaff on Rolphs Wharf	23	33	..	⅝ mile.
Weather vane on very large barn	48	01	..	1¼ miles.
West peak of barn behind wharf	81	03	..	1 mile.
Lightning rod to right of two chimneys of house	111	15	..	1¾ miles.
Nail in blaze in fence post	115	15	30	8.85 meters.
Top point of roof of large brick house on ridge	135	05	40	2¼ miles.
Spindle on cupola on left one of two barns at Wilmers Wharf	177	08	40	¾ mile.
Northwest peak of Wilmers Wharf cannery	190	15	..	¾ mile.
Nail in blaze in cedar tree (10 inches diameter)	279	43	30	3.40 meters.

BLANK.

General locality.—Northwestern shore of upper Chester River about ¼ mile west of Rolphs Wharf and ¾ mile north of entrance to Southeast Creek. (See Progress map.)

Immediate locality.—Observed station is on a grassy point about 2 feet above high water, 7 yards west of shore, 9 yards north of shore, 8 yards northwest of extreme end of point, and 40 yards from a dense clump of trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Rolphs" (N 82° 37′ E)	0	00	00	¼ mile.
Weather vane on wharf house	10	19	..	¼ mile.
Left peak of wharf house	71	30	..	½ mile.
Left peak of small house among trees	104	28	30	1¾ miles.
Spindle on barn cupola	115	06	..	1¾ miles.
Peak of middle dormer window of house	271	38	..	1¾ miles.
Peak of large barn	333	25	..	⅝ mile.
Flagstaff on Rolphs Wharf house	356	27	..	¼ mile.

ROLPHS.

General locality.—Eastern shore of upper Chester River about 100 yards southeast of Rolphs Wharf and ¾ mile north of entrance to Southeast Creek. (See Progress map.)

Immediate locality.—Observed station is on a grass bank between two large willow trees about 6 feet above high water, 5 yards northeast of shore, 19 yards south-southwest of side gate to yard, and 7 yards southwest of a road 3 feet higher than observed station.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Southeast" (S 22° 53′ W)	0	00	00	.....	¾ mile.
Peak of Wilmers Wharf cannery	15	06	..	.....	1¼ miles.
Flagstaff on Rolphs Wharf	76	59	..	.....	100 yards.
Nail in blaze in willow tree (24 inches diameter)	88	06	20	.....	7.16 meters.
Chimney on ell of Story house	151	36	..	.....	53 yards.
Nail in blaze in willow tree (27 inches diameter)	220	31	10	.....	13.96 meters.
Chimney on ell of Story house	261	56	..	.....	120 yards.
Nail in blaze in willow tree (25 inches diameter)	309	26	40	.....	8.51 meters.
Weather vane on middle of lower wharf house	347	42	..	.....	100 yards.

CRANEY.

General locality.—Eastern shore of Chesapeake Bay on western shore of Kent Island about ½ mile north of Craney Creek and 4½ miles east of Tolly Point. (See Chart No. 31.)

Immediate locality.—Observed station is about 3 feet above and 30 feet back from high water on a low, sandy, cultivated field. A group of farm buildings stand about ¼ mile away. Cement monument marking reference station is 4.88 meters N 85° 36′ E of observed station.

Marks.—Observed station is a nail in a wooden stub projecting 3 inches above surface of ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Thomas Point Light" (S 56° 45′ W)	0	00	00	.....	4¾ miles.
"Greenbury Point Shoal Light"	57	27	30	.....	5¼ miles.
"Sandy Point Light"	111	26	30	.....	5¾ miles.
REFERENCE STATION	208	51	10	.....	4.88 meters.
Cupola on barn	258	11		.....	¼ mile.
Extreme south tangent of Kent Island	310	52	..	.....	6 miles.

THOMAS POINT SHOAL LIGHT.

General locality.—Western side of Chesapeake Bay offshore about 1¼ miles southeast of Thomas Point and 3 miles south of entrance to channel to Annapolis. (See Chart No. 31.)

Immediate locality.—Observed station is on a hexagonal screw-pile structure known as Thomas Point Shoal Lighthouse.

Marks.—Observed station is center point of lantern on Thomas Point Shoal Lighthouse.

Reference.—	°	′	″		
"Thomas 3" (N 56° 07′ W)	0	00	00	.....	1¼ miles.

BLOODY POINT BAR LIGHT.

General locality.—Offshore of southwestern end of Kent Island on northern side of entrance to Eastern Bay about 1⅛ miles southwest of Bloody Point and 1¼ miles west of Kent Point. (See Chart No. 31.)

Immediate locality.—Observed station is on tower on caisson structure known as Bloody Point Bar Lighthouse.

Marks.—Observed station is center point of lantern on Bloody Point Bar Lighthouse.

Reference.—	°	′	″		
"Valliant" (S 4° 59′ E)	0	00	00	.....	4½ miles.

TENK.

General locality.—Northern side of entrance to Eastern Bay on Kent Point about 1½ miles east of Bloody Point Bar Light. (See Chart No. 31.)

Immediate locality.—Observed station is in about 2 feet of water, 18 yards off shore of Kent Point, 50 yards southwest of point of land, and 65 yards south-southeast of another point of land. Cement monument marking reference station is 35.94 meters N 36° 15′ W of observed station.

Marks.—Observed station is nail in center of 3-inch square stub in water with top about on level with high water. Reference station is center point of triangle on standard cement monument projecting 6 inches above surface of ground.

References.—

	°	′	″	
"Bloody Point Bar Light" (S 86° 34′ W)	0	00	00	1¼ miles.
REFERENCE STATION	57	11	30	35.94 meters.
Chimney of house on Tilghmans Point Farm	169	26	..	5⅞ miles.
"Rich Neck Water Tank"	175	48	10	5¼ miles.
Flagpole on Claiborne train shed	181	14	..	4½ miles.
Right chimney of house	188	34	..	4½ miles.
"Kemp Tower"	190	21	30	3⅞ miles.
Right chimney of brick house	206	17	..	3¾ miles.
Right chimney of house	240	12	..	4½ miles.
Chimney left of house among trees on Poplar Island	278	26	..	3¾ miles.

STRAIGHT.

General locality.—Northern shore of Eastern Bay on Long Point about 2¼ miles northeast of Kent Point, 2⅞ miles northwest of Wades Point, and ⅛ mile northeast of entrance to Long Point Creek. (See Chart No. 31.)

Immediate locality.—Observed station is in a cultivated field about 8 feet above high water, 35 yards west of edge of bank, 45 yards northwest of edge of bank near a tree, 80 yards south-southwest of fence corner, 245 yards south-southeast of fence corner at gate, and 175 yards east-southeast of woods.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Needle" (N 48° 15′ E)	0	00	00	4⅛ miles.
Left tangent of Tilghmans Point	35	07	..	4⅝ miles.
Chimney of house on Tilghmans Point Farm	42	27	..	4⅛ miles.
"Kemp Tower"	83	46	00	2⅞ miles.
Nail in blaze in red oak tree (22 inches diameter)	113	59	00	31.06 meters.
Right tangent of woods on Poplar Island	155	30	..	5¾ miles.
Left tangent of woods on Kent Point	179	48	..	2 miles.
South peak of building	264	18	..	½ mile.
East peak of barn	317	48	..	¾ mile.
South chimney of house	330	10	..	¼ mile.

MOUTH.

General locality.—Northern shore of Eastern Bay on eastern shore of Kent Island about 1¾ miles north of Long Point, 3⅝ miles northwest of Claiborne Wharf, and 3¼ miles southwest of Bodkin Island. (See Chart No. 31.)

Immediate locality.—Observed station is in a cultivated field about 8 feet above high water, 10 yards west of top of a bank with uniform slope to shore, 50 yards south of a small cove, and 20 yards south of a group of cedar trees near shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Matta" (N 5° 49′ W)	0	00	00	2¼ miles.
South gable of barn	26	41	..	4¼ miles.
West gable of house	33	35	..	2¼ miles.
Right tangent of woods on Turkey Point	50	25	..	3 miles.
"Parsons Island Water Tank"	66	43	00	5⅛ miles.
North gable of barn	74	49	..	6¼ miles.
Left tangent of woods on Tilghmans Point	103	05	..	4¼ miles.
South chimney of house on Tilghmans Point Farm	112	19	..	4 miles.
"Rich Neck Water Tank"	124	48	40	3⅞ miles.
South gable of Claiborne Wharf house	137	41	..	3¼ miles.
"Kemp Tower"	154	09	00	3¼ miles.
East chimney of Legg house	224	59	..	⅜ mile.
Chimney of small house	286	35	..	1½ miles.
South gable of barn	342	46	..	1⅜ miles.

MATTA.

General locality.—Northern shore of Eastern Bay on eastern shore of Kent Island at western side of entrance to Shipping Creek about 2 miles west of Turkey Point. (See Chart No. 31.)

Immediate locality.—Observed station is in cultivated field about 15 feet above high water, 125 yards southwest of extreme end of point, 25 yards northwest of dry ditch, and 200 yards northwest of lone cedar tree near shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Batts" (N 67° 45′ E)	0	00	00	1 mile.
North chimney of house	17	54	..	2 miles.
Left tangent of woods on Tilghmans Point	54	30	..	5⅜ miles.
North chimney of house on Tilghmans Point Farm	62	34	..	5⅛ miles.
"Rich Neck Water Tank"	71	31	00	5½ miles.
Left tangent of woods on Long Point	105	49	..	2½ miles.
Chimney of Greeve house	124	53	..	¼ mile.
South chimney of house	231	14	..	¾ mile.
South cupola on barn	247	39	..	⅞ mile.
East chimney of house	273	58	..	1½ miles.
Chimney of small house	296	12	..	1¼ miles.
West chimney of house	305	45	..	1⅛ miles.

THEN.

General locality.—Western shore of small bay at entrance to Shipping Creek about ¾ mile northwest of Eastern Bay, ¾ mile northeast of entrance to narrow part of Shipping Creek, and at western side of entrance to a smaller creek. (See Chart No. 31.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, 33 yards west of shore, 40 yards south of shore, 50 yards north of shore at line between hard land and marsh, 8 yards east of pasture land, and ¾ mile east of 2½-story house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Some" (N 68° 51′ E)	0	00	00	.....	½ mile.
Near peak of brick house	16	50	..	.....	⅝ mile.
Large lone tree on point	46	08	30	.....	¾ mile.
"Rich Neck Water Tank"	74	53	30	.....	6 miles.
Weather vane on barn cupola	110	34	30	.....	3 miles.
Right corner of large house	115	32	..	.....	1 mile.
Large lone tree in field	178	12	..	.....	250 yards.
Near peak of house	200	43	..	.....	¼ mile.
Near peak of house	247	04	..	.....	⅜ mile.
Left peak of house	300	50	..	.....	½ mile.
Left peak of large house	323	36	..	.....	½ mile.

SOME.

General locality.—Northern shore of small bay at entrance to Shipping Creek on a point between two small creeks about ¾ mile north of Eastern Bay and 2 miles northwest of Turkey Point. (See Chart No. 31.)

Immediate locality.—Observed station is in a cultivated field about 5 feet above high water, 20 yards northeast of marsh, 30 yards northwest of edge of bank, 28 yards east of edge of bank, 50 yards northeast of shore of Shipping Creek, and 53 yards southwest of shore of small creek.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Batts" (S 49° 01′ E)	0	00	00	.....	¾ mile.
Large lone tree	18	55	..	.....	½ mile.
Peak between two chimneys of large house	72	18	..	.....	1⅛ miles.
Right peak of barn	105	01	..	.....	1⅛ miles.
Near peak of house	125	20	..	.....	¾ mile.
Near peak of large barn	171	45	..	.....	⅜ mile.
Left chimney of old house	194	07	..	.....	¼ mile.
Spindle on cupola on barn	221	37	..	.....	½ mile.
Large pine tree	307	21	..	.....	⅜ mile.
Left corner of large house	339	25	..	.....	¾ mile.

BATTS.

General locality.—Northern shore of Eastern Bay on southern end of Batts Neck between Shipping and Cox Creeks about 1¼ miles northwest of Turkey Point. (See Chart No. 31.)

Immediate locality.—Observed station is in cultivated field about 2 feet above high water, 21 yards north of shore, and 100 yards west of a wire fence extending 100 yards into bay.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument. Station "Coxes Creek," 1899, is 87.70 meters N 72° 20′ E of observed station and is marked by the center of a cross in the top of a granite post about 12 inches square in the rough and about 27 inches long projecting 5 inches above surface of ground. The top of the granite post is dressed to a 6-inch cube marked with a square cross and the letters "U. S." Subsurface mark is center of neck of a bottle buried with top 3 inches below base of granite post.

References.—	°	′	″		
"Turkey" (S 58° 24′ E)	0	00	00	.....	1¼ miles.
North chimney of house on Tilghmans Point Farm	19	25	..	.....	5 miles.
"Rich Neck Water Tank"	28	26	00	.....	5¼ miles.
Nail in blaze in one of twin persimmon trees (4 inches diameter)	37	36	40	.....	3.94 meters.
Left tangent of woods on Long Point	69	48	..	.....	3¼ miles.

References—Continued.	°	′	″		
East gable of house	76	30	..	.....	2½ miles.
Nail in blaze in persimmon tree (6 inches diameter)	91	13	50	.....	9.76 meters.
South chimney of house	202	08	..	.....	⅜ mile.
South chimney of house	242	32	..	.....	¾ mile.
South gable of barn	271	54	..	.....	1½ miles.
North chimney of house	293	22	..	.....	1⅜ miles.
"Coxes Creek" 1899 (granite post)	310	44	20	.....	87.70 meters.
North chimney of house	341	07	..	.....	1⅜ miles.

TOP.

General locality.—Western shore of Cox Creek about 1 mile north of Eastern Bay and 1 mile south of Warehouse Creek. (See Chart No. 31.)

Immediate locality.—Observed station is on cupola of a barn about 150 yards east of shore.

Marks.—Observed station is center point of top of cupola on barn.

References.—None necessary.

WARE.

General locality.—Western shore of Cox Creek about 2 miles north of Eastern Bay and ¼ mile south of entrance to Warehouse Creek. (See Chart No. 31.)

Immediate locality.—Observed station is in a cultivated field about 15 feet above high water, 300 yards northwest of end of point, and 90 yards south of wire fence extending east and west.

Marks.—Observed station is center point of triangle on standard cement monument projecting 7 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Tuxon" (N 13° 45′ E)	0	00	00	.....	¾ mile.
South gable of house	1	11	..	.....	1½ miles.
South chimney of house	19	05	..	.....	1¼ miles.
North chimney of house	34	50	..	.....	1 mile.
Cupola on barn	99	46	..	.....	⅜ mile.
North chimney of house	171	48	..	.....	1¼ miles.
South chimney of house	257	55	..	.....	350 yards.
South chimney of house	307	54	..	.....	½ mile.

COFFEE.

General locality.—Southwestern shore of Warehouse Creek on a point about ½ mile northwest of Cox Creek. (See Chart No. 31.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, 9 yards south of point of shore, 13 yards southwest of shore, 17 yards west-northwest of shore at fence, 12 yards north of fence, 29 yards east-northeast of corner of fence, and 250 yards north by east of house with two chimneys.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Here" (N 53° 46′ W)	0	00	00	.....	⅜ mile.
Left peak of barn	22	49	..	.....	1¼ miles.
Left chimney of brick house	51	40	..	.....	1¼ miles.
West chimney of house	100	41	..	.....	1¼ miles.
Near peak of house	113	46	..	.....	1¼ miles.
Left peak of house	136	11	..	.....	1⅜ miles.
Cupola on barn	160	33	..	.....	1½ miles.
Nail in blaze in fence post	173	15	30	.....	16.57 meters.
Nail in blaze in fence post	220	34	40	.....	12.29 meters.
Near corner of house	226	02	..	.....	250 yards.
Nail in blaze in fence post	245	59	30	.....	14.14 meters.

HERE.

General locality.—Southwestern shore of Warehouse Creek on a point at northwestern side of entrance to a small cove about ¾ mile northwest of Cox Creek. (See Chart No. 31.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, 17 yards west of shore, 20 yards southwest of shore, 25 yards northwest of shore, 60 yards north of shore, 3 yards southeast of one-strand barbed-wire fence, and ¼ mile east to southeast of woods.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Samuel" (N 31° 22′ E)	0	00	00	¼ mile.
Chimney outside northwest end of large house	29	34	..	1⅞ miles.
Near peak of house	43	01	..	1⅜ miles.
Cupola on barn	79	17	..	1¾ miles.
Cupola on barn	96	45	..	1¾ miles.
Middle north chimney of large old brick house	115	39	..	¾ mile.
Peak of side gable of house	185	54	..	1½ miles.
Left end of large house	314	40	..	¾ mile.

SAMUEL.

General locality.—Northeastern shore of Warehouse Creek on a point at northwestern side of entrance to a small cove about ¾ mile northwest of Cox Creek. (See Chart No. 31.)

Immediate locality.—Observed station is on long marsh point about 1 foot above high water, 9 yards east of shore of Warehouse Creek, 23 yards west-southwest of shore of small cove, 18 yards north of point, and 27 yards west of another point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 7 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Liver" (S 56° 31′ E)	0	00	00	⅜ mile.
Spindle on barn cupola	12	19	..	1¾ miles.
Near peak of small house	34	56	..	⅝ mile.
Left chimney of large house	92	52	..	1½ miles.
Chimney of house showing through trees	208	43	..	¾ mile.
Left corner of large brick house	247	45	..	1¼ miles.
Chimney outside of near end of house	304	12	..	1¼ miles.
Left peak of house	339	08	..	1¼ miles.
Cupola on barn	353	59	10	1½ miles.

LIVER.

General locality.—Northeastern shore of Warehouse Creek on a point at western side of entrance to a small cove about ¼ mile northwest of Cox Creek. (See Chart No. 31.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 15 yards northwest of shore, 17 yards southeast of shore, 30 yards north of point of shore, 30 yards northeast of extreme end of point, and 250 yards southwest by south of three large trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Tuxon" (N 83° 37′ E)	0	00	00	⅜ mile.
Left peak of house	10	23	..	1 mile.
Cupola on barn	32	16	..	1¼ miles.
Left tangent of left chimney of large house	94	18	..	1¾ miles.
Right peak of small house	118	20	..	⅜ mile.
Left peak of house with three dormer windows	237	10	..	1 mile.
Left peak of very large barn	281	55	..	1⅛ miles.
Clump of pine trees	299	34	..	250 yards.
West chimney of house	326	31	..	1⅛ miles.

TUXON.

General locality.—Western shore of Cox Creek on a point about 3 miles north of Eastern Bay, ½ mile south of entrance to Thompsons Creek, and ¼ mile northeast of entrance to Warehouse Creek. (See Chart No. 31.)

Immediate locality.—Observed station is on marsh about 2 feet above high water and 50 yards west of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 8 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Greek" (S 51° 51′ E)	0	00	00	½ mile.
East chimney of house	41	10	..	⅞ mile.
"Top" (cupola on barn)	61	37	..	1⅝ miles.
North chimney of house	77	45	..	¾ mile.
North chimney of house	107	28	..	⅝ mile.
South gable of barn	198	06	..	1 mile.
North chimney of house	265	55	..	¾ mile.
North chimney of house	288	06	..	⅝ mile.
North chimney of house	333	02	..	½ mile.
Cupola on barn	357	44	..	1⅛ miles.

STEVE.

General locality.—Western shore of Cox Creek on a point about 3¼ miles north of Eastern Bay at southwestern side of entrance to Thompsons Creek and ½ mile north of entrance to Warehouse Creek. (See Chart No. 31.)

Immediate locality.—Observed station is on marsh land about 1 foot above high water, 27 yards south of shore, 35 yards north of shore, 20 yards west of a point of shore, and 35 yards east of a point of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Thompson" (N 37° 13′ W)	0	00	00	⅜ mile.
Chimney of small house	1	03	..	¾ mile.
Right peak of very large house	30	08	..	1 mile.
Near corner of large house	65	50	..	¾ mile.
Near corner of large house	92	28	..	⅝ mile.
Near peak of house	124	07	..	½ mile.
Near peak of house	164	38	..	¾ mile.
Weather vane on house with two chimneys	209	03	..	1¼ miles.
Left chimney of small house	234	45	..	1⅛ miles.
Right peak of small house	253	12	..	1¼ miles.
Near peak of house	329	44	..	1 mile.
Left corner of brick house	355	18	..	¾ mile.

THOMPSON.

General locality.—Western shore of Thompsons Creek about ⅜ mile west of point of land between Thompsons Creek and Cox Creek and ⅛ mile northwest of a small cove. (See Chart No. 31.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, 30 yards south of shore, 45 yards northwest of shore, 20 yards southwest of point of shore, and 120 yards south-southeast of rail fence.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Hope" (N 11° 27′ E)	0	00	00	.....	⅜ mile.
Near peak of large house showing through trees	5	32	..	.....	1 mile.
Near corner of large house	50	56	..	.....	½ mile.
Near peak of large house	72	51	..	.....	⅝ mile.
Right peak of house	95	29	..	.....	¾ mile.
Left corner of house	120	38	..	.....	1 mile.
Right chimney of house	186	03	..	.....	1 mile.
Left corner of brick house	303	33	..	.....	½ mile.
Near peak of house	330	41	..	.....	1⅛ miles.
Right corner of very large house	353	36	..	.....	¾ mile.

HOPE.

General locality.—Western shore of Thompsons Creek on a point between Thompsons Creek and a smaller creek about ½ mile northwest of Cox Creek. (See Chart No. 31.)

Immediate locality.—Observed station is on marsh land about 1 foot above high water, 40 yards west of shore, 90 yards northwest of shore, and 200 yards east-southeast of end of fence.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Knock" (S 74° 42′ E)	0	00	00	.....	⅛ mile.
Right corner of near chimney of house	4	07	..	.....	⅜ mile.
Right corner of near chimney of house	13	34	..	.....	⅝ mile.
Near peak of house	42	13	..	.....	1½ miles.
Weather vane on house with two chimneys	65	46	30	.....	1⅞ miles.
Right tangent of near chimney of large house	150	10	..	.....	⅞ mile.
Near peak of large brick house	159	59	..	.....	⅜ mile.
Near peak of house	224	12	..	.....	⅞ mile.
Right peak of large house	253	12	..	.....	⅜ mile.

KNOCK.

General locality.—Eastern shore of Thompsons Creek about ½ mile north of Cox Creek and opposite a point of land between Thompsons Creek and a cove. (See Chart No. 31.)

Immediate locality.—Observed station is in southwest end of point of woods about 1 foot above high water, 6 yards east of shore, and 60 yards south-southwest of a point of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Landing" (S 3° 06′ E)	0	00	00	.....	¼ mile.
"Top" (barn cupola)	10	08	30	.....	2½ miles.
Near peak of large house	83	14	..	.....	1½ miles.
Near peak of large brick house	94	16	..	.....	⅝ mile.
Left peak of very large barn	151	32	..	.....	½ mile.
Nail in blaze in pine tree (6 inches diameter)	184	10	00	.....	5.50 meters.
Nail in blaze in pine tree (8 inches diameter)	226	58	30	.....	23.81 meters.
Nail in blaze in oak tree (10 inches diameter)	276	49	00	.....	7.15 meters.
Right corner of near chimney of large house	295	35	..	.....	⅞ mile.

LANDING.

General locality.—Eastern shore of Thompsons Creek about ⅛ mile northwest of Cox Creek. (See Chart No. 31.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, 16 yards northwest of cut in shore, 20 yards north-northwest of point of shore, 14 yards east of point, 12 yards southeast of shore, 100 yards west of cultivated land, and 250 yards south of woods.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Timber" (S 38° 33′ E)	0	00	00	⅜ mile.
Left peak of barn	1	07	..	1 mile.
Weather vane on middle of house with two chimneys	34	38	..	1⅝ miles.
Right chimney of house	66	41	..	1⅛ miles.
Left corner of large brick house	150	12	..	⅝ mile.
Right peak of very large house	202	18	..	¾ mile.
Right corner of large house	275	49	..	⅝ mile.
Large house	314	03	..	⅜ mile.
Right peak of barn	347	53	..	1¼ miles.

TIMBER.

General locality.—Eastern shore of Cox Creek about 3¼ miles north of Eastern Bay, ¾ mile northeast of entrance to Warehouse Creek, and opposite entrance to Thompsons Creek. (See Chart No. 31.)

Immediate locality.—Observed station is in a pasture between large cherry tree at the edge of the water and four cedar trees at the edge of the bank about 5 feet above high water, 4 yards east of edge of bank, 17 yards east of point, 6 yards southeast of edge of bank, and 12 yards northeast of edge of bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Ville" (S 9° 32′ E)	0	00	00	¼ mile.
Nail in blaze in cherry tree (30 inches diameter)	26	26	10	13.45 meters.
Right peak of house	41	00	..	1¼ miles.
Nail in blaze in stump (8 inches diameter)	42	45	10	6.12 meters.
Right peak of house	58	50	..	1⅛ miles.
Left corner of large brick house	133	49	..	1 mile.
Nail in blaze in cedar tree (5 inches diameter)	170	05	10	6.80 meters.
Left corner of left chimney of house	213	56	..	⅜ mile.
Left corner of house	278	56	..	400 yards.
Right corner of building	342	41	..	½ mile.

VILLE.

General locality.—Eastern shore of Cox Creek about 3 miles north of Eastern Bay, ⅝ mile northeast of entrance to Warehouse Creek, and ½ mile southeast of entrance to Thompsons Creek. (See Chart No. 31.)

Immediate locality.—Observed station is in a pasture about 5 feet above high water, 8 yards east of edge of bank, 33 yards south of tangent of cliff, 60 yards north of small ditch, and 115 yards north of wire fence.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Greek" (S 3° 57′ E)	0	00	00	⅜ mile.
Left corner of house	45	52	..	1 mile.
Right peak of house	69	24	..	1 mile.
Left peak of brick house	127	44	..	1 mile.
Left corner of large brick house	137	32	..	1¼ miles.
Right peak of very long barn	160	05	..	1¼ miles.
Left corner of house	172	52	..	¼ mile.
Near peak of house	276	09	..	¾ mile.
Left corner of house	314	12	..	¾ mile.
Right corner of modern house	340	03	..	1¼ miles.

GREEK.

General locality.—Eastern shore of Cox Creek on a point about 2¾ miles north of Eastern Bay and ½ mile east of entrance to Warehouse Creek. (See Chart No. 31.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 60 yards southwest of extreme end of point, and 125 yards east of a small marsh island.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Tuxon" (N 51° 50′ W)	0	00	00	½ mile.
East chimney of house	14	37	..	1½ miles.
South gable of barn	26	19	..	2¼ miles.
East chimney of house	45	37	..	1¼ miles.
East chimney of house	64	14	..	⅝ mile.
North chimney of house	91	26	..	¼ mile.
Chimney of house	139	57	..	¼ mile.
Cupola on barn	176	08	..	¾ mile.
Chimney of small house	252	04	..	⅝ mile.
South chimney of house	290	55	..	1 mile.
South chimney of house	318	32	..	⅞ mile.

TOM.

General locality.—Eastern shore of Cox Creek about 2 miles north of Eastern Bay and ½ mile southeast of entrance to Warehouse Creek. (See Chart No. 31.)

Immediate locality.—Observed station is in a cultivated field about 12 feet above high water, 300 yards east of shore, 135 yards north of a graveyard, 100 yards southwest of a house, and 40 yards south of driveway beyond wire fence.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Ware" (N 67° 55′ W)	0	00	00	⅜ mile.
Southwest corner of east house on road	28	01	..	100 yards.
South gable of small barn	61	09	..	2¼ miles.
East chimney of house	70	29	..	1¾ miles.
Chimney of house	92	43	..	⅞ mile.
North chimney of house	176	20	..	⅜ mile.
North gable of barn	272	59	..	1¼ miles.
North chimney of house	281	59	..	¾ mile.
Chimney of small house	336	15	..	¾ mile.

DELL.

General locality.—Eastern shore of Cox Creek about 1½ miles north of Eastern Bay and 1 mile south of entrance to Warehouse Creek. (See Chart No. 31.)

Immediate locality.—Observed station is in a cultivated field about 10 feet above high water, 43 yards from shore, 28 yards northeast of top of bank, and 30 yards northeast of a lone cedar tree at edge of bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Turkey" (S 17° 22′ E)	0	00	00	1⅝ miles.
"Rich Neck Water Tank"	16	31	00	5⅞ miles.
Left tangent of woods on Long Point	33	36	..	4¼ miles.
North chimney of house	44	07	..	3¾ miles.
Left tangent of house	72	56	..	1 mile.
North chimney of house	88	09	..	½ mile.
Chimney of small house	136	19	..	1¼ miles.
South chimney of house	154	52	..	1¼ miles.
West chimney of house	188	19	..	½ mile.
Cupola on barn	230	45	..	¼ mile.
West gable of barn	303	02	..	¼ mile.
Left tangent of small fishing shack	343	03	..	⅝ mile.
Right tangent of barn	354	31	..	1¼ miles.

TURKEY.

General locality.—Northern shore of Eastern Bay on southern end of Cox Neck on Turkey Point about 1 mile west of the north end of Bodkin Island. (See Chart No. 31.)

Immediate locality.—Observed station is in marsh meadow about 2 feet above high water, 40 yards northeast of shore, 200 yards south of a group of three pine trees near shore, and in center of triangle formed by three pine stubs driven flush with marsh to support theodolite.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Mouth" (S 40° 32′ W)	0	00	00	2¾ miles.
Chimney of house	23	19	..	2¾ miles.
Chimney of Greeve house	49	14	..	2½ miles.
South cupola on barn	68	20	..	2¾ miles.
North chimney of house	72	30	..	2½ miles.
South chimney of house	103	39	..	1¾ miles.
South chimney of house	113	22	..	2½ miles.
West pine tree of group	132	12	..	200 yards.
Right tangent of Bodkin Island	254	46	..	1 mile.
Left tangent of Tilghmans Point	275	23	..	3½ miles.
North chimney of house on Tilghmans Point Farm	286	38	..	3¾ miles.
"Rich Neck Water Tank"	297	25	..	4¼ miles.
Left tangent of woods on Long Point	352	26	..	3 miles.

COX.

General locality.—Western shore of Crab Alley Bay on Cox Neck about ⅜ mile north of Eastern Bay and 1 mile northwest of Bodkin Island. (See Chart No. 31.)

Immediate locality.—Observed station is at edge of a cultivated field on narrow neck of land about 3 feet above high water, 16 yards west of shore, 18 yards east of shore, and 80 yards northwest of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Tull" (N 12° 34′ E)	0	00	00	1⅝ miles.
Chimney of small house	12	54	..	2½ miles.
Chimney of house	21	19	..	2½ miles.
Cupola on barn	30	09	..	2¾ miles.
Right corner of old barn	49	27	..	2⅛ miles.
East chimney of large brick house	54	32	..	2⅛ miles.
Right tangent of Normans Point	61	40	..	2 miles.
North gable of barn on Parsons Island	79	50	..	2½ miles.
Left tangent of Bodkin Island	123	47	..	⅞ mile.
East gable of barn	227	02	..	⅜ mile.
Chimney of house	232	44	..	3 miles.
Chimney of house	255	50	..	2⅞ miles.

TULL.

General locality.—Eastern side of Kent Island and western side of Crab Alley Bay on northern end of Johnson Island at entrance to Crab Alley Creek about 2¼ miles north of Bodkin Island and 1½ miles northwest of Normans Point. (See Chart No. 31.)

Immediate locality.—Observed station is in a marsh meadow about 2 feet above high water, 18 yards south of shore, 53 yards west of extreme northeast end of Johnson Island, and 40 yards north of a group of pine trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Cox" (S 12° 35′ W)	0	00	00	1⅝ miles.
Chimney of house	4	54	..	¼ mile.
East gable of house	89	08	..	⅜ mile.
South chimney of house	121	14	..	¼ mile.
Chimney on small tenant house	145	12	..	¾ mile.
Cupola on barn	147	30	..	1 mile.
Right tangent of fishing shack	203	27	..	¼ mile.
Cupola on barn	258	23	..	1¼ miles.
Left tangent to small island	329	35	..	⅜ mile.
Left tangent to pine woods on Turkey Point	355	24	..	2 miles.

NEEDLE.

General locality.—Northern part of Eastern Bay on Bodkin Island at entrance to Crab Alley Bay about 1¼ miles west of the south end of Parsons Island and 1 mile east-southeast of Turkey Point. (See Chart No. 31.)

Immediate locality.—Observed station is near south end of Bodkin Island about 12 feet above high water, 50 yards north by west of shore, 90 yards northeast by east of shore, 115 yards west-southwest of shore, and in center of radial lines of sight cut in bushes.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Straight" (S 48° 17′ W)	0	00	00	.....	4⅛ miles.
Nail in blaze in pine tree (6 inches diameter).	5	51	30	.....	22.78 meters.
Nail in blaze in pine tree (8 inches diameter).	27	56	10	.....	17.17 meters.
Right chimney of large house	64	29	..	.....	3½ miles.
Nail in blaze in pine tree (6 inches diameter).	82	06	50	.....	11.54 meters.
Chimney of house on Parsons Island	194	43	..	.....	2⅜ miles.
Near chimney of Starr, large brick house	262	54	..	.....	6¼ miles.
Cupola on left barn of Tilghmans Point Farm.	289	40	..	.....	3 miles.
Chimney of bungalow	324	57	..	.....	5⅛ miles.
Nail in blaze in pine tree (7 inches diameter).	345	25	00	.....	18.20 meters.

KEMP TOWER.

General locality.—Southern shore of Eastern Bay on Wades Point about 1 mile southwest of Claiborne Wharf and 5⅛ miles east of Bloody Point Bar Light. (See Chart No. 31.)

Immediate locality.—Observed station is on tower or cupola of Wades Point Hotel, which is a large square frame structure adjoining a brick house.

Marks.—Observed station is center of top of roof of cupola.

References.—None necessary.

KEMP.

General locality.—Southern shore of Eastern Bay on Wades Point about 1⅜ miles southwest of Claiborne Wharf and 4⅞ miles east by south of Bloody Point Bar Light. (See Chart No. 31.)

Immediate locality.—Observed station is in cultivated land about 8 feet above high water, 30 yards east by north of a wire fence and several trees, 55 yards south-southeast of edge of bank, 90 yards east-northeast of a bungalow, 130 yards north by west of a wire and wood fence corner, 130 yards north-northwest of wooden fence, and 400 yards west by south of Wades Point Hotel.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Bloody Point Bar Light" (N 83° 37′ W)	0	00	00	.....	4⅞ miles.
Nail in blaze in locust tree (14 inches diameter)	1	41	30	.....	35.07 meters.
Left tangent of Kent Point	3	11	..	.....	3⅝ miles.
Chimney on middle of house	17	12	..	.....	3⅞ miles.
Left peak of barn	25	21	..	.....	4¼ miles.
Chimney of house	31	04	..	.....	3½ miles.
Left chimney of house	45	27	..	.....	3 miles.
Peak of main part of house	63	15	..	.....	5¼ miles.
Left tangent of Tilghmans Point	128	06	..	.....	3½ miles.
"Dixon" (center of house)	130	07	50	.....	2⅞ miles.
"Kemp Tower"	139	06	40	.....	¼ mile.
Fence corner (wood and wire)	244	43	..	.....	132 yards.
Near corner of cook house	288	40	..	.....	110 yards.
Nail in blaze in locust tree (7 inches diameter)	300	20	20	.....	27.23 meters.
Right corner post of piazza	306	24	..	.....	90 yards.
Nail in blaze in cedar tree (6 inches diameter)	310	43	30	.....	26.97 meters.

RICH NECK WATER TANK.

General locality.—On neck of land about halfway between Eastern Bay and Miles River, about 1¾ miles south-southwest of Tilghmans Point. (See Charts Nos. 31 and 32.)

Immediate locality.—Observed station is on large water tank on steel tower on Rich Neck Farm.

Marks.—Observed station is spindle on center of water tank.

References.—None necessary.

OVER.

General locality.—Eastern shore of Crab Alley Bay on a point about 1¼ miles north-northwest of Normans Point. (See Chart No. 32.)

Immediate locality.—Observed station is on edge of a cultivated field near a number of locust and wild cherry trees, about 3 feet above high water, 11 yards northeast of shore, 50 yards southeast of end of a marsh point, and 4 yards north of corner of a rail fence.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Norman" (S 21° 28′ E)	0	00	00	.....	1⅛ miles.
Left tangent of woods on Tilghmans Point	10	37	..	.....	5⅜ miles.
Right tangent of Bodkin Island	38	42	..	.....	2¼ miles.
Left tangent of pine woods on Turkey Point	51	46	..	.....	2½ miles.
Chimney of house	99	13	..	.....	1⅛ miles.
Chimney of small house	108	29	..	.....	1 mile.
Chimney of house	121	14	..	.....	1¼ miles.
Chimney of house	176	19	..	.....	⅝ mile.
Nail in blaze in wild cherry tree (8 inches diameter)	181	52	40	.....	8.98 meters.
South gable of house	193	00	..	.....	½ mile.
Nail in blaze in locust tree (8 inches diameter)	276	55	40	.....	7.13 meters.
West chimney of house	299	11	..	.....	200 yards.

NORMAN.

General locality.—Eastern shore of Crab Alley Bay on southwestern extremity of Crab Alley Neck about ¼ mile west of Normans Point, 2 miles northeast of Turkey Point, and ⅞ mile northwest of Parsons Island. (See Chart No. 32.)

Immediate locality.—Observed station is in a cultivated field on a rapidly washing, narrow neck of land, about 6 feet above high water, 20 yards north of vertical bank at shore, 30 yards south of vertical bank at shore, and 40 yards northeast of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Parsons" (S 38° 40′ E)	00	00	00	.....	1⅛ miles.
Right tangent of Parsons Island	16	46	..	.....	1¼ miles.
Left tangent of woods on Tilghmans Point	30	30	..	.....	4 miles.
Left tangent of woods on Bodkin Island	68	28	..	.....	2 miles.
Right tangent of Bodkin Island	78	39	..	.....	2 miles.
Right tangent of woods on Turkey Point	93	17	..	.....	2 miles.
Nail in blaze of hackberry tree (6 inches diameter)	112	42	30	.....	22.49 meters.

References—Continued.	°	′	″		
Chimney of small house	154	22	..	.....	1¾ miles.
East chimney of house	167	41	..	.....	2¼ miles.
South gable of house	205	38	..	.....	1 mile.
West chimney of large brick house	271	53	..	.....	¼ mile.
Chimney of small house	292	22	..	.....	3 miles.
"Parsons Island Water Tank"	353	41	40	.....	1 mile.

PARSONS.

General locality.—In northern side of Eastern Bay on western side of Parsons Island about 3 miles north of Tilghmans Point. (See Chart No. 32.)

Immediate locality.—Observed station is in cultivated land on highest part of island about 15 feet above high water, 110 yards southeast of shore, 270 yards south-southwest of Parsons Island Water Tank, 350 yards southwest of a house, 380 yards west-southwest of a large barn, 145 yards northeast of a wire fence, 155 yards northwest of wire fence at farm road, 195 yards southeast of a fence, and on the range of the west edge of the south chimney on the lower gable of the house with the west side of a window in the center of the south side of the house. Cement monument marking reference station is 26.10 meters N 21° 43′ E of observed station.

Marks.—Observed station is center of cross cut on rough granite stone about 35 inches long and 12 inches square with top cut to 6-inch cube and marked "U S" in lower half of cross. Subsurface mark is the mouth of a bottle 3 inches below base of monument. Reference station is center point of triangle on standard cement monument with top 5 inches above the surface of the ground.

References.—		′	″		
"Alley" (N 2° 12′ W)	0	00	00	.....	1¼ miles.
REFERENCE STATION	23	55	30	.....	26.10 meters.
"Parsons Island Water Tank"	24	04	20	.....	268 yards.
Near peak of house	35	13	..	.....	400 yards.
Right corner of barn	61	27	..	.....	382 yards.
Walnut tree	148	17	..	.....	300 yards.
Cupola of left barn of Tilghmans Point Farm	192	07	..	.....	3½ miles.
Right tangent of Claiborne train shed	202	57	..	.....	5 miles.
Right end of woods on Poplar Island	220	27	..	.....	12 miles.
Left tangent of Kent Point	234	23	..	.....	8¼ miles.
Left chimney of house	297	57	..	.....	3 miles.
Side peak of 2½-story house	314	35	..	.....	3⅛ miles.
Middle chimney of large brick house	336	44	..	.....	1¼ miles.
"New Barn Cupola"	349	10	00	.....	2¼ miles.

PARSONS ISLAND WATER TANK.

General locality.—Northern part of Eastern Bay between Crab Alley and Prospect Bays on Parsons Island, about halfway between the north and south end of the island. (See Chart No. 32.)

Immediate locality.—Observed station is on a water tank on wooden structure near a house.

Marks.—Observed station is center of spindle on center of water tank.

References.—None necessary.

ALLEY.

General locality.—Western shore of Prospect Bay on Crab Alley Neck about ¾ mile north of Parsons Island and ⅜ mile north of Narrows Point. (See Chart No. 32.)

Immediate locality.—Observed station is on hard ground in a marsh at northeast end of clump of 12 persimmon trees about 1 foot above high water and 75 yards southwest of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Dull" (N 2° 35′ W)	0	00	00	⅞ mile.
Near peak of "Fishermans Inn"	6	48	..	3 miles.
Nail in blaze in persimmon tree (4 inches diameter)	30	41	20	3.99 meters.
Left chimney of old house with two dormer windows	48	29	..	2⅜ miles.
Left peak of barn	79	42	..	2¾ miles.
Left chimney of large house	113	34	..	2¾ miles.
"Parsons Island Water Tank"	177	35	30	1⅛ miles.
Nail in blaze in persimmon tree (3 inches diameter)	194	56	00	4.88 meters.
Nail in blaze in persimmon tree (2½ inches diameter)	238	25	00	3.70 meters.
East chimney of brick house	246	02	..	½ mile.
Nail in blaze in persimmon tree (3 inches diameter)	298	21	30	3.29 meters.
Chimney of house among trees	317	54	..	1½ miles.
"New Barn Cupola"	335	41	40	1 mile.

NEW BARN CUPOLA.

General locality.—Western shore of Prospect Bay on Crab Alley Neck about 1¾ miles north-northwest of Parsons Island. (See Chart No. 32.)

Immediate locality.—Observed station is spindle with weather vane on cupola of barn about 100 yards east-southeast from house on farm belonging to H. C. Norman.

Marks.—Observed station is spindle on cupola.

References.—None necessary.

DULL.

General locality.—Western shore of Prospect Bay on a point at northern side of entrance to a cove about 2⅛ miles south of Kent Narrows railroad bridge, ⅞ mile west-southwest of Hoods Point and 1¼ miles north of Narrows Point. (See Chart No. 32.)

Immediate locality.—Observed station is in marsh land about 1 foot above high water, 30 yards west of shore, 40 yards northeast of shore, and 80 yards north-northwest of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Kirwan" (N 3° 00′ W)	0	00	00	1⅛ miles.
Near peak of "Fishermans Inn"	10	01	..	2⅛ miles.
Chimney of house	37	53	..	1½ miles.
Chimney of house in trees	56	09	..	1¼ miles.
Chimney of house	104	49	..	2¼ miles.
Chimney of old wharf house	138	46	..	4 miles.
Between two chimneys of old house	152	08	..	5¼ miles.
Left tangent of Parsons Island	169	41	..	1⅞ miles.
"New Barn Cupola"	270	45	20	⅜ mile.
Chimney of ell of house	329	06	..	¾ mile.

KIRWAN.

General locality.—Western shore of Prospect Bay on a point about 1¼ miles south of Kent Narrows railroad bridge and ¼ mile southeast of entrance to Kirwans Creek. (See Chart No. 32.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 16 yards southeast of shore, 25 yards northwest of shore, 27 yards west of extreme end of point, and 30 yards south-southeast of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Bridge" (N 8° 41′ E)	0	00	00	1⅜ miles.
Near peak of "Fishermans Inn"	9	51	..	1⅛ miles.
Chimney of house	46	45	..	1⅛ miles.
Chimney of house	53	28	..	1½ miles.
Right chimney of house	64	43	..	1¾ miles.
Near peak of old house among trees	90	50	..	1 mile.
Right peak of large barn	129	34	..	4⅛ miles.
"Parsons Island Water Tank"	167	43	10	3⅛ miles.
"New Barn Cupola"	188	29	..	1⅛ miles.
Right peak of new barn	207	22	..	⅝ mile.
Large chimney near end of old house	263	43	..	1 mile.
Chimney of house	308	51	..	1 mile.

MARSHY.

General locality.—Eastern shore of Prospect Bay about 1 mile south-southeast of Kent Narrows railroad bridge and ⅛ mile south of entrance to Marshy Creek. (See Chart No. 32.)

Immediate locality.—Observed station is in marsh land about 1 foot above high water, 25 yards east of shore, 50 yards southeast of shore, 40 yards northeast of extreme end of point, and 4 yards north of a line of four small trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Bonnet" (S 11° 30′ E)	0	00	00	1 mile.
Dormer window	35	26	..	2¼ miles.
Cupola of barn	55	25	30	1⅝ miles.
Right peak of barn	71	14	..	1¼ miles.
Cupola of barn	82	58	30	1⅝ miles.
Chimney on west peak of house	133	20	..	1¼ miles.
South peak of "Fishermans Inn"	169	06	..	1 mile.
Nail in blaze in locust tree (7 inches diameter)	184	47	10	32.79 meters.
Chimney at east peak of house near railroad track	238	16	..	⅞ mile.
Right chimney of house	260	23	..	1 mile.
East peak of house among trees	325	50	..	¾ mile.

BONNET.

General locality.—Eastern shore of Prospect Bay on Hood Point about 1¼ miles southeast of Hog Island and ½ mile west of Piney Point. (See Chart No. 32.)

Immediate locality.—Observed station is on marsh ground about 1 foot above high water, 21 yards west of shore, 12 yards west of inlet, and 55 yards northeast of the extreme end of Hoods Point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"New Barn Cupola" (S 79° 29′ W)	0	00	00	.....	1½ miles.
Chimney of house	24	11	..	.....	1¼ miles.
East gable of barn	28	24	..	.....	1¼ miles.
North chimney of house	64	04	..	.....	2 miles.
South gable of barn	90	43	..	.....	2⅛ miles.
Chimney on small house	137	57	..	.....	⅝ mile.
West gable of house	199	06	..	.....	1⅝ miles.
Chimney of small house	239	13	..	.....	2½ miles.
Chimney of small house	258	39	..	.....	4¾ miles.
South chimney of house on Kent Island	323	24	..	.....	1¾ miles.
Cupola on barn	353	09	..	.....	1¾ miles.

BRIAN REFERENCE STATION.

General locality.—Eastern shore of Prospect Bay on Brian Point about 1 mile southeast of Piney Point, 2 miles northeast of Parsons Island, and ⅜ mile west of entrance to Hog Hole Creek. (See Chart No. 32.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 13 yards east of edge of marsh, 14 yards northwest of edge of marsh, 18 yards north of extreme end of point, and 40 yards southwest of a cultivated field.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″		
"Green" (S 8° 55′ E)	0	00	00	.....	2¾ miles.
Left tangent of woods on Bennett Point	4	55	..	.....	4 miles.
Right tangent of woods on Parsons Island	65	33	..	.....	2¼ miles.
Middle chimney of large brick house	84	37	..	.....	2¼ miles.
Cupola of barn	102	34	..	.....	2¾ miles.
"New Barn Cupola"	109	56	20	.....	2½ miles.
Left peak of large house	112	08	..	.....	2⅝ miles.
Near peak of house	282	47	..	.....	½ mile.
Chimney of house	344	42	..	.....	1¼ miles.

GREEN.

General locality.—Eastern shore of Prospect Bay on point at northern side of entrance to Greenwood Creek about 3¼ miles northeast of Tilghmans Point and 2¾ miles north of Bennett Point. (See Chart No. 32.)

Immediate locality.—Observed station is on a sanded marsh point about 2 feet above high water, 5 yards northwest of shore, 26 yards northwest of shore, 53 yards east by north of a point of shore, 37 yards southeast by east of a point of shore, and 105 yards south-southwest of a point of woods.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Benn" (S 0° 45′ W)	0	00	00	.....	2¾ miles.
Cupola of barn	19	16	10	.....	6 miles.
Right tangent of woods on Tilghmans Point	52	01	..	.....	3⅜ miles.
"Parsons Island Water Tank"	115	03	50	.....	2½ miles.
East chimney of brick house	124	42	..	.....	3½ miles.
Peak of small house	155	05	..	.....	4 miles.
Chimney outside of house	165	43	..	.....	4 miles.
Near peak of barn	178	20	..	.....	3 miles.
Peak of house	235	45	..	.....	1 mile.
Chimney of house behind barn	316	01	..	.....	⅜ mile.
Square chimney of house	345	41	..	.....	1½ miles.

BENN.

General locality.—Eastern shore of Miles River on Bennett Point at western side of entrance to Wye River. (See Chart No. 32.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 75 yards northeast of extreme end of point, 100 yards southwest from edge of wood, and in center of triangle formed by three pine stubs driven flush with marsh to support theodolite.

Marks.—Observed station is center point of triangle on standard cement monument projecting 1 foot above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Hough" (N 57° 41′ E)	0	00	00	⅜ mile.
Cupola of barn	70	45	..	1 mile.
"Rich Neck Water Tank"	203	33	00	3½ miles.
South chimney of house on Tilghmans Point Farm	215	59	..	3 miles.
"Parsons Island Water Tank"	271	55	00	4½ miles.
Right tangent of house	288	21	..	6⅝ miles.

HOUGH.

General locality.—Northwestern side of entrance to Wye River on a point about ⅜ mile northeast of Miles River and ¼ mile southwest of north end of Bruffs Island. (See Chart No. 32.)

Immediate locality.—Observed station is on a grass point about 1 foot above high water, 16 yards north of shore, 22 yards south of shore, 15 yards west of extreme end of point, 11 yards east of small pool in marsh, and 200 yards east of woods.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Won" (N 09° 29′ E)	0	00	00	⅜ mile.
Near peak of building	7	22	..	2⅜ miles.
Right side of chimney of house	17	20	..	2⅞ miles.
Near peak of long barn	28	43	..	1¼ miles.
Piazza post of house in woods	62	14	..	½ mile.
Windmill	128	24	..	¾ mile.
Windmill	181	48	..	4¼ miles.
Tall, slender tree in woods	271	57	..	200 yards.
Black walnut tree	339	23	..	200 yards.

WON.

General locality.—Western shore of the branch of Wye River bounding Wye Island on the west about ½ mile northwest of northern end of Bruffs Island and ¾ mile northeast of southern end of Bennett Point. (See Chart No. 32.)

Immediate locality.—Observed station is on small marsh point, about 1 foot above high water, 4 yards northwest of shore, 4 yards west of shore, 4 yards north of shore, and 40 yards southeast of large lone black-walnut tree. Cement monument marking reference station is 22.80 meters S 15° 31′ W of observed station.

Marks.—Observed station is nail in center of 2-inch stub projecting 5 inches above 2-inch tile pipe with top flush with surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″		
"Nose" (N 28° 05′ E)	0	00	00	.....	½ mile.
Near peak of large barn	23	20	..	.....	⅜ mile.
Side peak of roof of house	25	18	..	.....	⅜ mile.
Near peak of house	47	26	..	.....	1⅛ miles.
Left large chimney of house in woods	81	08	..	.....	½ mile.
Right corner of building on Bruffs Island	98	41	..	.....	½ mile.
Windmill	126	52	40	.....	1¼ miles.
Near peak of fisherman's shanty	161	03	..	.....	100 yards.
REFERENCE STATION	167	25	50	.....	22.80 meters.
Nail in blaze in cedar tree (2 inches diameter)	210	23	00	.....	12.54 meters.
Nail in blaze in walnut tree (3 inches diameter)	262	30	10	.....	10.81 meters.
Nail in blaze in walnut tree (30 inches diameter)	290	06	10	.....	38.12 meters.
Right corner of right chimney of house	337	19	..	.....	½ mile.

NOSE.

General locality.—Western shore of the branch of Wye River bounding Wye Island on the west on a point about ⅝ mile north-northwest of Bruffs Island. (See Chart No. 32.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 4 yards southwest of shore, 6 yards north of shore, 14 yards west-northwest of extreme end of point, and 34 yards east of a row of locust trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Stop" (N 12° 09′ E)	0	00	00	.....	⅜ mile.
Church cross	1	55	..	.....	2 miles.
Chimney of cottage	3	03	..	.....	1⅜ miles.
Near peak of house	37	22	..	.....	⅝ mile.
Left peak of house	67	25	..	.....	½ mile.
Right corner of house on Bruffs Island	152	55	..	.....	¾ mile.
"St. Michaels P. E. Church Spire"	183	28	10	.....	5⅞ miles.
"St. Michaels Water Tank"	184	51	20	.....	5⅞ miles.
Nail in blaze in locust tree (8 inches diameter)	237	58	50	.....	34.45 meters.
Nail in blaze in locust tree (9 inches diameter)	256	32	10	.....	28.31 meters.
Near peak of large house, between two chimneys	266	09	..	.....	¼ mile.
Nail in blaze in locust tree (7 inches diameter)	280	50	50	.....	31.44 meters.
Tangent of point	316	16	..	.....	100 yards.

STOP.

General locality.—Western shore of the branch of Wye River bounding Wye Island on the west on a point about 1 mile north of Bruffs Island. (See Chart No. 32.)

Immediate locality.—Observed station is on edge of pasture land about 3 feet above high water, 20 yards west of shore, 40 yards north by east of shore, and 50 yards south by west of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Orb" (N 21° 16′ W)	0	00	00	.....	¼ mile.
Near peak of barn	3	30	..	.....	¾ mile.
Nail in blaze of hackberry tree (5 inches diameter)	46	52	20	.....	7.57 meters.
Side peak of house	94	01	..	.....	¾ mile.
Near peak of house	147	17	..	.....	½ mile.
Nail in blaze in branch of mulberry tree (5 inches diameter)	198	20	00	.....	20.61 meters.
Peak between two chimneys of house	239	37	..	.....	⅜ mile.
Left corner of corn house	252	58	..	.....	½ mile.

ORB.

General locality.—Western shore of the branch of Wye River bounding Wye Island on the west on a point about 1⅜ miles north of Bruffs Island and ⅝ mile southwest of Cedar Point. (See Chart No. 32.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 6 yards southwest of shore, 7 yards northwest of shore, 6 yards north of shore, and southeast of a point of land 5 feet higher than station.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Piney" (N 6° 05′ E)	0	00	00	.....	¼ mile.
Chimney of house on Drum Point	22	11	..	.....	¾ mile.
Left peak of house	38	32	..	.....	1⅜ miles.
Left peak of house	87	51	..	.....	¾ mile.
Right peak of large barn	97	50	..	.....	¾ mile.
Near peak of house	130	37	..	.....	¾ mile.
Near peak of large barn	137	36	..	.....	¾ mile.
Nail in blaze in locust tree (3 inches diameter)	251	18	20	.....	18.39 meters.
Nail in blaze in oak tree (3¼ feet diameter)	307	28	10	.....	23.34 meters.
Nail in blaze in gum tree (6 inches diameter)	322	50	50	.....	20.17 meters.
Right corner of brick house	340	49	..	.....	½ mile.

PINEY.

General locality.—Western shore of the branch of Wye River bounding Wye Island on the west about ⅜ mile southwest of Drum Point and 1¾ miles north of Bruffs Island. (See Chart No. 32.)

Immediate locality.—Observed station is in a cultivated field about 6 feet above high water, 15 yards northwest of point, 8 yards north of top of bank, 9 yards west of trees at top of bank, and 55 yards northeast of another point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Ferry" (N 57° 08′ E)	0	00	00	.....	⅜ mile.
Nail in blaze in locust tree (4 inches diameter)	3	32	20	.....	8.85 meters.
Near peak of house	4	19	..	.....	1⅛ miles.
Near peak of house	35	43	..	.....	⅜ mile.
Nail in blaze in hackberry tree (5 inches diameter)	51	12	00	.....	10.66 meters.
Near peak of house	97	31	..	.....	1⅛ miles.

References—Continued.	°	′	″		
Near peak of hip-roof barn	102	33	..	.....	1⅛ miles.
Left peak of boathouse	115	53	..	.....	2½ miles.
Near corner of brick house	211	32	..	.....	⅛ mile.
Nail in blaze in locust tree (7 inches diameter)	318	54	30	.....	18.07 meters.

FERRY.

General locality.—Western shore of the branch of Wye River bounding Wye Island on the west on Drum Point, about ⅜ mile west of Cedar Point. (See Chart No. 32.)

Immediate locality.—Observed station is in a pasture with paling fence on northwest and west-southwest sides about 4 feet above high water, 6 yards northwest of shore, 10 yards west of shore, 20 yards northeast by east of fence at county road, and 40 yards southeast of fence near small house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 8 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Owe" (N 66° 42′ E)	0	00	00	.....	¾ mile.
Near peak of house	5	08	..	.....	1¼ miles.
Near peak of house	19	25	..	.....	1⅜ miles.
Cupola of building	60	57	..	.....	1 mile.
Near peak of house	105	29	..	.....	⅜ mile.
Peak between two chimneys of house	138	01	..	.....	1½ miles.
Nail in blaze in locust tree (5 inches diameter)	171	18	00	.....	26.92 meters.
Nail in blaze in hackberry tree (7 inches diameter)	202	47	10	.....	35.04 meters.
Nail in blaze in hackberry tree (9 inches diameter)	242	09	00	.....	34.93 meters.
Left corner of large brick house	281	16	..	.....	¼ mile.
Near peak of house	357	27	..	.....	⅝ mile.

OWE.

General locality.—Western shore of the branch of Wye River bounding Wye Island on the west on a point about ¾ mile east-northeast of Drum Point and 1 mile south-southwest of entrance to Wye Narrows. (See Chart No. 32.)

Immediate locality.—Observed station is on a grassy point about 2 feet above high water, 9 yards north of shore, 11 yards west-southwest of shore, 10 yards west of extreme end of point, and 75 yards east-southeast of a house 12 feet above high water.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Hook" (N 7° 36′ W)	0	00	00	.....	¼ mile.
Peak of near gable of house	23	37	..	.....	2¼ miles.
Near corner of house	89	43	..	.....	⅝ mile.
Right peak of small house	144	13	..	.....	¾ mile.
Baldwin windmill	167	05	40	.....	1⅝ miles.
Left peak of house	204	38	..	.....	1⅛ miles.
Near corner of chimney outside left end of house	236	39	..	.....	⅞ mile.
Left tangent of large brick house	253	44	..	.....	1¼ miles.
Nail in blaze in black walnut tree (5 feet diameter)	287	02	10	.....	31.44 meters.
Nail in blaze in black walnut tree (3 feet 6 inches diameter)	331	58	10	.....	31.63 meters.

HOOK.

General locality.—Western shore of the branch of Wye River bounding Wye Island on the west about ¾ mile southwest of entrance to Wye Narrows and ¼ mile south of entrance to a cove. (See Chart No. 32.)

Immediate locality.—Observed station is in cultivated land about 10 feet above high water, 3 yards west of top of bank, 4 yards northeast of top of bank lined with cedars, 7 yards north-northwest of extreme end of point of bank at left of cedars, and north of a long, low peninsula that separates a small pond from river.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Knee" (N 15° 04′ E)	0	00	00	¼ mile.
Near peak of large barn	5	01	..	2¼ miles.
Spindle on cupola of barn	33	14	..	1⅛ miles.
Left corner of large chimney of small house	109	52	..	⅞ mile.
Left peak of house	129	38	..	⅞ mile.
Near peak of large barn	156	32	..	1⅛ miles.
Near peak of large barn	163	03	..	⅞ mile.
Nail in blaze in cedar tree (4 inches diameter)	175	23	40	6.99 meters.
Nail in blaze in cedar tree (3 inches diameter)	231	37	00	4.94 meters.
Nail in blaze in oak tree (8 inches diameter)	271	06	10	11.41 meters.

KNEE.

General locality.—Western shore of the branch of Wye River bounding Wye Island on the west about ½ mile west-southwest of entrance to Wye Narrows. (See Chart No. 32.)

Immediate locality.—Observed station is on a narrow strip of lowland about 1 foot above high water, 4 yards west of shore, 12 yards east of cut in bank, and 40 yards south of bank 8 feet high with few trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Bee" (N 59° 35′ E)	0	00	00	⅝ mile.
Large pine tree on point	26	46	..	½ mile.
Smoke pipe on small building	84	59	..	½ mile.
Baldwin windmill	108	08	10	2¼ miles.
Peak of near gable of Baldwin house	108	29	..	2¼ miles.
Large chimney of large house	120	43	..	1 mile.
Lightning rod on Bryan house	129	59	..	¾ mile.
Nail in blaze in oak tree (12 inches diameter)	165	06	20	14.60 meters.
Nail in blaze in locust tree (7 inches diameter)	208	48	10	4.86 meters.
Nail in blaze in twisted cedar bush	289	36	10	8.79 meters.
Chimney of house	320	11	..	1⅞ miles.

NO.

General locality.—On the western shore of the continuation of the branch of Wye River bounding Wye Island on the west, about ⅜ mile west-northwest of entrance to Wye Narrows on point at south side of entrance to a small cove. (See Chart No. 32.)

Immediate locality.—Observed station is on a point about 1 foot above high water, 4 yards southwest of shore, 4 yards north of shore, 5 yards west of extreme end of point, and east of trees on bank 5 feet high.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Oysters" (N 64° 35′ E)	0	00	00	¼ mile.
Near peak of house	59	59	..	⅞ mile.
Near end of corn house	94	01	..	1 mile.
Cupola of barn	118	29	..	2 miles.
Right corner of Bryan house	128	36	..	1⅛ miles.
Nail in blaze in locust tree (4 inches diameter)	160	05	30	26.17 meters.
Nail in blaze in oak tree (4 inches diameter)	234	11	20	5.42 meters.
Nail in blaze in oak tree (8 inches diameter)	290	08	20	4.73 meters.
Spindle on barn cupola	294	51	..	¾ mile.
Left corner of large house	300	00	..	⅝ mile.
Left peak of house	315	20	..	1⅜ miles.

OYSTERS.

General locality.—Eastern shore of the continuation of the branch of Wye River bounding Wye Island on the west about ¼ mile north of entrance to Wye Narrows on point at south side of entrance to a small cove. (See Chart No. 32.)

Immediate locality.—Observed station is in a clump of small trees on a point about 3 feet above high water, 6 yards south-southeast of edge of bank, 7 yards west of point of bank, and 8 yards east-northeast of edge of bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"June" (S 6° 39′ W)	0	00	00	⅝ mile.
Right corner of Bryan house	14	46	..	1¼ miles.
Chimney of cabin	111	07	..	⅞ mile.
Nail in blaze in oak tree (6 inches diameter)	118	15	00	3.97 meters.
Chimney of large house	156	41	..	1⅛ miles.
Nail in blaze in oak tree (8 inches diameter)	291	22	50	4.71 meters.
Nail in blaze in walnut tree (7 inches diameter)	336	17	30	11.31 meters.

BEE.

General locality.—Northern shore of Wye Narrows at northern side of western entrance to Wye Narrows. (See Chart No. 32.)

Immediate locality.—Observed station is in woods about 4 feet above high water, 7 yards east of edge of bank, 11 yards northwest of edge of bank, and 13 yards north of point of bank near marsh.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Close" (S 2° 44′ W)	0	00	00	¼ mile.
Right corner of Bryan house	30	15	..	1⅛ miles.
Near peak of house	68	01	..	⅞ mile.
Nail in blaze in oak tree (4 inches diameter)	201	58	50	2.10 meters.
Nail in blaze in oak tree (24 inches diameter)	314	05	30	8.64 meters.
Nail in blaze in oak tree (8 inches diameter)	345	50	40	1.86 meters.

CLOSE.

General locality.—Northern shore of Wye Island at southern side of western entrance to Wye Narrows. (See Chart No. 32.)

Immediate locality.—Observed station is in edge of cultivated land about 12 feet above high water, 3 yards south of edge of bank, 5 yards west-southwest of top of bank, 18 yards west of lone pine tree, and 17 yards east of cut in bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"June" (S 56° 21′ W)	0	00	00	.....	¼ mile.
Nail in blaze in walnut tree (3 feet diameter)	0	48	20	.....	56.49 meters.
Right corner of large brick house	4	03	..	.....	1¼ miles.
Near peak of house	30	47	..	.....	⅝ mile.
Windmill	34	39	..	.....	⅝ mile.
Spindle on barn cupola	102	21	..	.....	1⅛ miles.
Left corner of house	160	24	..	.....	¾ mile.
Nail in blaze in pine tree (2 feet diameter)	203	47	40	.....	18.28 meters.
Nail in blaze in black walnut tree (10 inches diameter)	226	19	40	.....	27.00 meters.
Left peak of large building	246	35	..	.....	¾ mile.
Right peak of corn house	306	57	..	.....	½ mile.

JUNE.

General locality.—On Wye Island on eastern shore of the branch of Wye River bounding Wye Island on the west on a point at northern side of entrance to a cove about ¼ mile southwest of entrance to Wye Narrows. (See Chart No. 32.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 10 yards south-southeast of shore, 20 yards southwest of lines of trees and marsh, and 50 yards north of twin oak trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Chin" (S 24° 00′ W)	0	00	00	.....	⅜ mile.
Near peak of Bryan house	11	02	..	.....	⅝ mile.
Right corner of large house	37	22	..	.....	1 mile.
Left corner of near chimney of house	79	57	..	.....	¾ mile.
Near corner of house	150	56	..	.....	1⅛ miles.
Spindle on cupola of barn	154	20	..	.....	1¾ miles.
Nail in blaze in one of twin oak trees (30 inches diameter)	201	55	10	.....	19.32 meters.
Nail in blaze in one of twin oak trees (30 inches diameter)	286	10	30	.....	43.17 meters.
Nail in blaze in oak tree (15 inches diameter)	325	12	00	.....	44.45 meters.

CHIN.

General locality.—On Wye Island on the eastern shore of the branch of Wye River bounding Wye Island on the west on a point about 1 mile northeast of Cedar Point and ¾ mile south-southwest of entrance to Wye Narrows. (See Chart No. 32.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 6 yards northeast of shore, 20 and 40 yards south of shore, and 7 yards east of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Aller" (S 43° 03′ E)	0	00	00	.....	300 yards.
Near peak of large barn	46	47	..	.....	1⅜ miles.
Peak between chimneys of house	81	23	..	.....	1¼ miles.
Near peak of Bryan house	90	55	..	.....	¼ mile.
Right corner of house in woods	221	04	..	.....	⅞ mile.
Nail in blaze in pine tree (10 inches diameter)	239	05	00	.....	16.78 meters.
Nail in blaze in pine tree (5 inches diameter)	252	13	40	.....	19.51 meters.
Nail in blaze in pine tree (6 inches diameter)	319	42	50	.....	11.68 meters.

ALLER.

General locality.—On Wye Island on the eastern shore of the branch of Wye River bounding Wye Island on the west about 1 mile east-northeast of Drum Point and at northern side of entrance to a cove. (See Chart No. 32.)

Immediate locality.—Observed station is on marsh land between two large pine trees about 1 foot above high water, 17 yards northeast of a small point, 15 yards southeast of a short cut in shore, and 9 yards southwest of edge of cultivated land.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Twist" (S 0° 21′ W)	0	00	00	.....	⅜ mile.
Cupola of building	12	08	..	.....	1 mile.
Left peak of house	29	06	..	.....	1⅜ miles.
Peak between two chimneys of large house	42	22	..	.....	2¼ miles.
Chimney outside left end of house	55	22	..	.....	1⅜ miles.
Right corner of house	76	24	..	.....	⅜ mile.
Nail in blaze in pine tree (20 inches diameter)	141	08	50	.....	20.90 meters.
Peak of side gable of house	255	06	..	.....	¼ mile.
Near corner of house	279	17	..	.....	⅝ mile.
Nail in blaze in pine tree (18 inches diameter)	279	50	10	.....	28.52 meters.
Left tangent of large square chimney of house	313	06	..	.....	⅜ mile.

TWIST.

General locality.—On Wye Island on the eastern shore of the branch of Wye River bounding Wye Island on the west at northern side of entrance to a small cove about 1 mile east of Cedar Point. (See Chart No. 32.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 11 yards southeast of point, 8 yards south of shore at point of higher and solid land with trees, 8 yards west of trees, 18 yards west-southwest of point, and 33 yards north of shore of cove.

Marks.—Observed station is center point of triangle on standard cement monument projecting 7 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Wide" (S 64° 00′ W)	0	00	00	.....	¼ mile.
Chimney outside southeast end of house	12	57	..	.....	1 mile.
Near corner of brick house	18	23	..	.....	1½ miles.
Left corner of brick house	42	57	..	.....	1⅜ miles.

References—Continued.	°	′	″		
Left corner of house	67	54	..	.....	½ mile.
Near peak of barn	112	53	..	.....	2 miles.
Nail in blaze in oak tree (14 inches diameter)	151	12	20	.....	7.55 meters.
Nail in blaze in oak tree (16 inches diameter)	174	30	30	.....	7.90 meters.
Nail in blaze in hackberry tree (4 inches diameter)	202	44	20	.....	8.85 meters.
Gum tree	231	38	..	.....	52 yards.
Right peak of corn house	254	49	..	.....	¼ mile.

WIDE.

General locality.—On Wye Island on the eastern shore of the branch of Wye River bounding Wye Island on the west on a point at western side of entrance to a small cove about ¾ mile east of Cedar Point. (See Chart No. 32.)

Immediate locality.—Observed station is in marsh land surrounded by water bushes about 1 foot above high water, 12 yards south of shore, 16 yards southeast of shore, 20 yards east of shore, 20 yards northeast of trees, 11 yards northeast of a wire fence, 100 yards west of entrance to creek, and near point of higher land and trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Darce" (S 81° 55′ W)	0	00	00	.....	¾ mile.
Near corner of brick house	3	40	..	.....	1¼ miles.
Left corner of brick house	34	45	..	.....	1 mile.
Left corner of house	77	22	..	.....	½ mile.
Peak of near gable of house	134	03	..	.....	¾ mile.
Near peak of house	165	09	..	.....	⅝ mile.
Nail in blaze in fence post	275	38	20	.....	13.21 meters.
Nail in blaze in oak tree (6 inches diameter)	315	29	20	.....	18.48 meters.
Nail in blaze in oak tree (5 inches diameter)	340	38	40	.....	18.14 meters.
Right corner of house	359	17	..	.....	¾ mile.

DARCE.

General locality.—On Wye Island on the eastern shore of the branch of Wye River bounding Wye Island on the west on Cedar Point at ferry landing about ¼ mile south of Drum Point. (See Chart No. 32.)

Immediate locality.—Observed station is in cultivated land about 10 feet above high water, 8 yards south of point of bank, 23 yards northwest of a house, and 55 yards east-northeast of ferry landing at foot of bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Twixt" (S 39° 52′ W)	0	00	00	.....	⅛ mile.
Near corner of brick house	50	50	..	.....	⅝ mile.
Left corner of brick house	130	53	..	.....	½ mile.
Near peak of house	133	57	..	.....	1¼ miles.
Cross on church	143	52	40	.....	¾ mile.
Left corner of house	187	14	..	.....	¾ mile.
Near peak of house	215	40	..	.....	1⅛ miles.
Left corner of shed	255	43	50	.....	27.25 meters.
Right corner of house	280	48	50	.....	21.98 meters.
Peak between two chimneys of house	350	24	..	.....	1¼ miles.

TWIXT.

General locality.—On Wye Island on the eastern shore of the branch of Wye River bounding Wye Island on the west about ⅛ mile southwest of Cedar Point. (See Chart No. 32.)

Immediate locality.—Observed station is on a small marsh island about 1 foot above high water, 3 yards north of shore, 4 yards east of shore, 7 yards south of shore, 9 yards west of point of shore, and 20 yards west of mainland.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Star" (S 9° 37′ W)	0	00	00	⅛ mile.
Peak between two chimneys of house	19	26	..	1⅛ miles.
Left corner of brick house	94	37	..	¼ mile.
Chimney in middle of large brick house	171	25	..	¼ mile.
Left corner of barn	227	11	..	⅛ mile.

STAR.

General locality.—On Wye Island on the eastern shore of the branch of Wye River bounding Wye Island on the west, about 1½ miles north of Bruffs Island and ¼ mile south-southwest of Cedar Point. (See Chart No. 32.)

Immediate locality.—Observed station is on a soft marsh point about 1 foot above high water, 8 yards north of shore, 9 yards south of shore, and 13 yards east of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Leaven" (S 15° 09′ E)	0	00	00	½ mile.
Near peak of hip roof of large barn	5	16	..	¾ mile.
"St. Michaels Water Tank"	32	26	30	6⅞ miles.
Peak between two chimneys of large house	46	44	..	1 mile.
Left corner of chimney outside brick house	135	14	..	½ mile.
Left corner of large barn	136	39	..	½ mile.
Chimney in middle of large brick house	197	42	..	¾ mile.
Nail in blaze in locust tree (4 inches diameter)	215	09	10	19.78 meters.
Nail in blaze in gum tree (3 inches diameter)	232	40	40	18.75 meters.
Nail in blaze in locust tree (8 inches diameter)	248	59	30	22.21 meters.

LEAVEN.

General locality.—On Wye Island on the eastern shore of the branch of Wye River bounding Wye Island on the west about 1⅛ miles north-northeast of Bruffs Island and ⅝ mile south of Cedar Point. (See Chart No. 32.)

Immediate locality.—Observed station is in northwest corner of cultivated field about 10 feet above high water, 4 yards southeast of edge of bank, 5 yards southwest of scant locust woods, and 8 yards east-northeast of point of bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Snout" (S 27° 53′ W)	0	00	00	⅜ mile.
Large oak tree	9	21	..	1⅛ miles.
Peak between two chimneys of large house	29	06	..	¾ mile.
Left corner of large chimney outside near end of house	113	37	..	⅞ mile.

References—Continued.	°	′	″	
Chimney outside of house	152	54	..	⅝ mile.
Nail in blaze in locust tree (12 inches diameter)	167	02	50	5.63 meters.
Nail in blaze in locust tree (10 inches diameter)	213	18	00	15.03 meters.
Nail in blaze in locust tree (16 inches diameter)	240	36	40	12.01 meters.
Near peak of house	315	01	..	⅜ mile.

SNOUT.

General locality.—On Wye Island on the eastern shore of the branch of Wye River bounding Wye Island on the west about ¾ mile north of Bruffs Island and ½ mile north of Bordley Point. (See Chart No. 32.)

Immediate locality.—Observed station is in cultivated land about 12 feet above high water, 30 yards east by south of edge of bank, 65 yards south of large cherry tree in side of bank at fence, 65 yards southwest of rail fence, 70 yards northeast of a small clump of trees at edge of bank, and 400 yards west by north of a house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"South" (S 20° 34′ E)	0	00	00	½ mile.
Left peak of boathouse	19	10	..	⅞ mile.
"St. Michaels P. E. Church Spire"	38	07	30	6¼ miles.
"St. Michaels Water Tank"	39	30	10	6⅛ miles.
Nail in blaze in locust tree (10 inches diameter)	49	21	30	64.78 meters.
Peak of house between two chimneys	99	02	..	¼ mile.
Near peak of small house	111	45	..	½ mile.
Nail in blaze in tree (8 inches diameter)	179	42	10	34.39 meters.
Near peak of barn	186	34	..	1¼ miles.
Left corner of house	203	36	..	1⅜ miles.
Nail in blaze in fence post	246	50	10	63.29 meters.
Near peak of house	249	00	..	¾ mile.
Left peak of house	296	41	50	¼ mile.

SOUTH.

General locality.—On southwestern end of Wye Island on Bordley Point on the northern shore of the junction of the two branches of Wye River bounding Wye Island, about ⅜ mile north-northeast of Bruffs Island. (See Chart No. 32.)

Immediate locality.—Observed station is in a pasture on a rounded point about 10 feet above high water, 11 yards northeast of edge of field, 13 yards north of edge of field, 22 yards northwest of edge of field, 30 yards southeast of cut in cliff, and 50 yards southwest of point of water bushes at gully.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Flat" (N 55° 27′ E)	0	00	00	½ mile.
Right chimney of house	19	30	..	1¼ miles.
Windmill	64	34	30	1¼ miles.
Spindle on barn cupola	134	55	20	1¼ miles.
Left chimney of house in woods	153	45	..	½ mile.
Left peak of building	173	45	..	4½ miles.
Peak between two chimneys of house	244	27	..	¾ mile.
Left chimney of house	317	37	..	⅜ mile.
Near peak of house	343	21	..	2 miles.

FLAT.

General locality.—On Wye Island on the northern shore of the branch of Wye River bounding Wye Island on the south on a point between two coves about 1 mile northeast of Bruffs Island and ½ mile northeast of Bordley Point. (See Chart No. 32.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 8 yards north of shore, 8 yards southwest of shore, 12 yards west of extreme end of point, 17 yards east of south end of line of several trees on edge of bank 3 feet high, and 45 yards east of a black gum tree 5 feet in diameter at ground.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Albert" (N 84° 31′ E)	0	00	00	½ mile.
Left corner of tower of house	30	33	..	1¼ miles.
Windmill	62	55	40	1⅜ miles.
Spindle on barn cupola	119	34	..	1⅝ miles.
Front peak of boathouse	134	02	..	1 mile.
Left tangent of black gum tree	158	06	40	44 yards.
Near peak of house	249	34	..	¾ mile.
Spindle on cupola	351	11	10	¾ mile.
Windmill	352	15	30	¾ mile.
Near peak of Baldwin house	354	50	..	¾ mile.

ALBERT.

General locality.—On Wye Island on the northwestern shore of the branch of Wye River bounding Wye Island on the south on a point about 1¼ miles east-northeast of north end of Bruffs Island, and opposite entrance to Lloyd Creek. (See Chart No. 32.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 17 yards northwest of shore, 28 yards east of shore, 35 yards south of shore, and 75 yards north-northeast of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Le Seur" (N 1° 03′ E)	0	00	00	300 yards.
Baldwin windmill	65	11	40	⅜ mile.
Flagstaff on Baldwin boat house	67	59	..	400 yards.
Windmill on wooden tower	125	16	30	1 mile.
Peak of house with several chimneys	127	08	..	1 mile.
Chimney outside near end of old house	170	05	..	1 mile.
Front peak of boat house	231	10	..	1¼ miles.
Peak between two chimneys of house	269	40	..	1¾ miles.
Left peak of house	274	45	..	⅞ mile.
Peak of house	347	47	..	¾ mile.

LE SEUR.

General locality.—On Wye Island on the northwestern shore of the branch of Wye River bounding Wye Island on the south about ⅛ mile north of a prominent point opposite entrance to Lloyd Creek. (See Chart No. 32.)

Immediate locality.—Observed station is in a clump of small trees about 3 feet above high water, 11 yards east of shore, 12 yards southwest of shore on line to next point, and 12 yards north by east of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″.	
"Attila" (N 31° 07′ E)	0	00	00	¼ mile.
Near peak of large barn	56	55	..	⅝ mile.
Spindle on cupola	61	52	50	¼ mile.
Right corner of chimney of Baldwin house	72	24	..	¼ mile.
Nail in blaze in walnut tree (4 inches diameter)	140	45	50	4.11 meters.
Nail in blaze in walnut tree (5 inches diameter)	201	19	40	7.60 meters.
Nail in blaze in walnut tree (3 inches diameter)	255	56	30	6.74 meters.
Nail in blaze in walnut tree (3 inches diameter)	304	08	10	7.27 meters.

ATTILA.

General locality.—On Wye Island on the northwestern shore of the branch of Wye River bounding Wye Island on the south about ¾ mile north of entrance to Lloyd Creek at north side of entrance to a small cove. (See Chart No. 32.)

Immediate locality.—Observed station is on slope of a point about 3 feet above high water, 10 yards west of shore, 10 yards north-northeast of shore, and 11 yards northwest of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Tobine" (N 15° 18′ E)	0	00	00	¼ mile.
Near peak of very large barn	97	30	..	⅜ mile.
Near peak of house	104	53	..	⅝ mile.
Spindle on cupola	128	31	50	¼ mile.
Left corner of Baldwin house	132	48	..	¼ mile.
Flagpole on wharf house	146	43	..	¼ mile.
Windmill	163	31	..	1¼ miles.
Nail in blaze in cedar stump (10 inches diameter)	197	07	20	8.36 meters.
Nail in blaze in cedar tree (8 inches diameter)	347	34	10	38.64 meters.

TOBINE.

General locality.—On Wye Island on the northwestern shore of the branch of Wye River bounding Wye Island on the south about ¾ mile north of entrance to Lloyd Creek on point at north side of entrance to a small cove. (See Chart No. 32.)

Immediate locality.—Observed station is on point of a cultivated field about 6 feet above high water, 4 yards north of edge of field, 4 yards southwest of edge of field, 5 yards west-northwest of point of field, and ¼ mile east-southeast of a barn with cupola.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Sang" (N 6° 21′ W)	0	00	00	¼ mile.
Right corner of house	16	19	..	⅝ mile.
Near peak of large barn	143	19	..	½ mile.
Cupola of Baldwin barn	173	35	10	½ mile.
Right peak of Baldwin house	175	17	..	½ mile.
Windmill	187	35	..	1½ miles.
Near peak of house	249	12	..	1⅝ miles.
Cupola of building	304	50	..	¼ mile.

SANG.

General locality.—On Wye Island on the northwestern shore of the branch of Wye River bounding Wye Island on the south about 1¼ miles north of entrance to Lloyd Creek and ⅝ mile west of entrance to Dividing Creek. (See Chart No. 32.)

Immediate locality.—Observed station is on bank about 12 feet above high water between two cuts in bank, 2 yards west of edge of bank, 3 yards northwest of edge of bank, 4 yards southwest of edge of bank, 32 yards from bottom of northern cut in bank, 52 yards from bottom of southern cut in bank, and 95 yards south-southwest of tree-lined gully.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Turn" (N 48° 08′ E)	0	00	00	¼ mile.
Tangent of woods	41	45	..	2 miles.
Tangent of point	56	52	..	⅜ mile.
Right peak of large barn	100	25	..	¾ mile.
Baldwin windmill	121	06	..	¾ mile.
Peak of near gable of Baldwin house	122	05	..	¾ mile.
Near peak of ell of house	199	14	..	⅜ mile.
Left corner of house	256	56	..	¼ mile.
Left peak of house	281	53	..	¼ mile.

TURN.

General locality.—On Wye Island on the northwestern shore of the branch of Wye River bounding Wye Island on the south, about ½ mile west of entrance to Dividing Creek on point at western side of entrance to a small cove. (See Chart No. 32.)

Immediate locality.—Observed station is on bank in a cultivated field, about 8 feet above high water, 5 yards northwest of edge of bank, 6 yards north of edge of bank, 7 yards west of edge of bank, 50 yards south-southwest of entrance to a small creek, and 55 yards east of a dead sycamore tree in field.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Go" (S 84° 55′ E)	0	00	00	⅛ mile.
Near peak of small house	32	18	..	1⅛ miles.
Right peak of large barn	67	07	..	¾ mile.
Baldwin windmill	85	55	..	⅞ mile.
Near peak of gable of Baldwin house	86	21	..	⅞ mile.
Nail in blaze in wild cherry tree (3 inches diameter)	128	20	10	23.08 meters.
Chimney outside near end of house	179	44	..	⅜ mile.
Nail in blaze in locust tree (4 inches diameter)	255	50	00	18.85 meters.
Nail in blaze in chestnut stump with second growth (14 inches diameter)	279	53	10	12.93 meters.

GO.

General locality.—On Wye Island on the northern shore of the branch of Wye River bounding Wye Island on the south, on a point between two coves about ¼ mile west of entrance to Dividing Creek. (See Chart No. 32.)

Immediate locality.—Observed station is on grassy beach at high water, about 2 yards south of foot of bank 4 feet high covered with dense growth of young trees, and 37 yards from entrance to a small creek. Cement monument marking reference station is 19.06 meters N 22° 35′ E of observed station.

Marks.—Observed station is nail in center of 2-inch pine stub projecting 2 inches above 2-inch tile pipe with top 2 inches below surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″	
"Divide" (N 89° 24′ E)	0	00	00	⅜ mile.
Near peak of shanty	48	16	..	⅞ mile.
Chimney of house	51	46	..	⅞ mile.
Peak of gable on Baldwin house	104	12	..	⅞ mile.
Baldwin windmill	104	13	30	⅞ mile.
Near corner of square chimney of house	159	10	..	¾ mile.
Cupola on barn	164	20	..	¾ mile.
Nail in blaze in gum tree (4 inches diameter)	249	05	50	6.68 meters.
Nail in blaze in gum tree (2 inches diameter)	272	16	30	5.73 meters.
REFERENCE STATION	293	11	20	19.06 meters.
Nail in blaze in gum tree (4 inches diameter)	313	07	10	4.15 meters.

DIVIDE.

General locality.—On Wye Island on the northern shore of the branch of Wye River bounding Wye Island on the south, on point at eastern side of entrance to Dividing Creek. (See Chart No. 32.)

Immediate locality.—Observed station is in point of woods, about 4 feet above high water, 2 yards west-northwest of edge of bank, 8 yards east-northeast of edge of bank, and 11 yards north-northeast of point of bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Princess" (N 53° 04′ E)	0	00	00	⅛ mile.
Right tangent of old wharf	12	44	..	¼ mile.
Near peak of large barn	50	24	..	1¾ miles.
Chimney of house	141	53	..	⅞ mile.
Baldwin windmill	162	18	30	1 mile.
Right chimney of house	189	13	20	2 miles.
Peak of house between two chimneys	195	40	..	2⅝ miles.
Nail in blaze in oak tree (14 inches diameter)	232	30	30	4.05 meters.
Nail in blaze in gnarled oak tree (8 inches diameter)	280	24	50	9.98 meters.
Nail in blaze in oak tree (30 inches diameter)	316	39	20	8.41 meters.

PRINCESS.

General locality.—On Wye Island on the northern shore of the branch of Wye River bounding Wye Island on the south, about ⅛ mile northeast of entrance to Dividing Creek and ⅜ mile west of entrance to Granary Creek. (See Chart No. 32.)

Immediate locality.—Observed station is in marsh land, about 1 foot above high water, 4 yards north of shore, 18 yards east by north of a large oak tree at shore, 4 yards south of foot of bank 10 feet high covered with vegetation, and 10 yards west by south of a white oak tree on bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Philip" (S 83° 05′ E)	0	00	00	⅜ mile.
Chimney of house on Pickerings Creek	15	16	..	1¾ miles.
Right peak of large barn	110	22	..	1 mile.
Baldwin windmill	121	01	..	1¼ miles.

References—Continued.	°	′	″		
Cupola of Baldwin stable	121	40	..	.....	1¼ miles.
Nail in blaze in white oak tree (3 inches diameter)	163	26	00	.....	5.65 meters.
Nail in blaze in cedar tree (14 inches diameter)	255	36	20	.....	3.01 meters.
Right tangent of old wharf	351	19	..	.....	150 yards.

PHILIP.

General locality.—On Wye Island on the northern shore of the branch of Wye River bounding Wye Island on the south, on western side of entrance to Granary Creek and ¼ mile east of entrance to Dividing Creek. (See Chart No. 32.)

Immediate locality.—Observed station is about 1 foot above high water, 3 yards north of shore, 9 yards south-southwest of shore of creek, 9 yards west of extreme end of point, and 6 yards southeast of point of bank 4 feet high. Cement monument marking reference station is 4.62 meters N 18° 12′ E of observed station.

Marks.—Observed station is nail in center of 2-inch cedar stub projecting 2 inches above 2-inch tile pipe with top flush with surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″		
"Granary" (S 63° 59′ E)	0	00	00	.....	¼ mile.
Baldwin windmill	113	44	20	.....	1⅜ miles.
Near peak of ell of house	141	49	..	.....	1¼ miles.
Nail in blaze in cedar tree (3 inches diameter)	169	10	50	.....	9.33 meters.
Nail in blaze in pine tree (6 inches diameter)	210	13	30	.....	18.09 meters.
Nail in blaze in oak tree (7 inches diameter)	238	45	30	.....	4.41 meters.
REFERENCE STATION	262	11	40	.....	4.62 meters.
Tangent of point	321	20	..	.....	¼ mile.
Near peak of large building	358	32	..	.....	2 miles.

GRANARY.

General locality.—On Wye Island on the northern shore of the branch of Wye River bounding Wye Island on the south on point at eastern side of entrance to Granary Creek. (See Chart No. 32.)

Immediate locality.—Observed station is among water bushes on marsh land about 1 foot above high water, 10 yards northeast of shore, 11 yards west of shore, 12 yards north by west of extreme end of point, and 50 yards from trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Morn" (N 89° 30′ E)	0	00	00	.....	¼ mile.
Large chimney of building	24	48	..	.....	1¼ miles.
Right tangent of point	85	34	..	.....	¼ mile.
Left end of barn	176	08	..	.....	1½ miles.
Left tangent of old wharf	199	54	..	.....	½ mile.

MORN.

General locality.—On Wye Island on the northern shore of the branch of Wye River bounding Wye Island on the south about 300 yards east of entrance to Granary Creek and ¾ mile northwest of entrance to Pickerings Creek. (See Chart No. 32.)

Immediate locality.—Observed station is about 1 foot above high water, 4 yards northwest of shore, 4 yards northeast of shore, and 6 yards southeast of foot of wooded slope to field 12 feet above high water. Cement monument marking reference station is 3.82 meters N 33° 52′ W of observed station.

Marks.—Observed station is nail in center of 2-inch cedar stub projecting 2 inches above 2-inch tile pipe with top flush with surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″	
"Bush" (N 83° 20′ E)	0	00	00	¼ mile.
Tangent of point	4	01	..	¼ mile.
Near peak of building	32	42	..	1¼ miles.
Tangent of foot of slope	56	33	..	¼ mile.
Right tree on point	120	06	..	¼ mile.
Tangent of woods	182	21	..	⅝ mile.
Nail in blaze in locust tree (6 inches diameter)	202	15	50	2.49 meters.
Nail in blaze in cedar tree (4 inches diameter)	241	37	00	5.47 meters.
REFERENCE STATION	242	48	00	3.82 meters.
Nail in blaze in locust tree (7 inches diameter)	244	46	50	6.68 meters.

BUSH.

General locality.—On Wye Island on the northern shore of the branch of Wye River bounding Wye Island on the south on north side of entrance to a small cove about ½ mile east of entrance to Granary Creek and ⅝ mile northwest of entrance to Pickerings Creek. (See Chart No. 32.)

Immediate locality.—Observed station is in cultivated land, about 7 feet above high water, 4 yards northeast of edge of bank, 9 yards northwest of point of curve of land, 22 yards west of tangent of land at tree, 30 yards west-northwest of scattering trees, and 50 yards northwest of a point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Nub" (S 83° 55′ E)	0	00	00	⅛-mile.
Tangent of point	46	27	..	¼ mile.
Largest cedar tree on point of high bank	96	41	..	¼ mile.
Nail in blaze in locust tree (2 inches diameter)	102	18	10	3.81 meters.
Tangent of point	166	18	..	¼ mile.
Nail in blaze in hackberry tree (5 inches diameter)	180	06	00	8.65 meters.
Nail in blaze in walnut tree (10 inches diameter)	348	25	20	20.04 meters.

NUB.

General locality.—On Wye Island on the northern shore of the branch of Wye River bounding Wye Island on the south on eastern side of entrance to a creek about ⅝ mile east of entrance to Granary Creek and ½ mile north of entrance to Pickerings Creek. (See Chart No. 32.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 2 yards east of shore, 20 yards southwest of shore, 45 yards west of shore, 20 yards south of extreme end of point, and 16 yards north-northwest of woods. Cement monument marking reference station is 15.10 meters N 83° 01′ E of observed station.

Marks.—Observed station is nail in center of 2-inch cedar stub set in 2-inch tile pipe with top flush with surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 5 inches above surface of ground.

References.—	°	′	″		
"Wheel" (S 4° 10′ E)	0	00	00	.....	¼ mile.
Chimney on house	30	02	..	.....	⅞ mile.
Largest cedar on point of high bank	47	16	..	.....	⅜ mile.
Large oak tree	94	55	..	.....	⅜ mile.
Large oak tree	143	43	..	.....	⅛ mile.
Large oak tree	226	17	..	.....	150 yards.
REFERENCE STATION	267	11	20	.....	15.10 meters.
Nail in blaze in cedar tree (8 inches diameter)	296	57	30	.....	16.81 meters.
Nail in blaze in oak tree (5 inches diameter)	333	04	40	.....	19.64 meters.
Nail in blaze in oak tree (4 inches diameter)	349	37	20	.....	20.87 meters.

WHEEL.

General locality.—On Wye Island on the northern shore of the branch of Wye River bounding Wye Island on the south on a point about ⅝ mile southeast by east of entrance to Granary Creek and ¼ mile northwest of entrance to Pickerings Creek. (See Chart No. 32.)

Immediate locality.—Observed station is on marsh point south of woods about 1 foot above high water, 2 yards east of shore, 4 yards southeast of point at slight cut in marsh, and 40 yards north of square point of shore. Cement monument marking reference station is 5.26 meters S 86° 47′ E of observed station.

Marks.—Observed station is nail in center of 2-inch cedar stub set in 2-inch tile pipe projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 5 inches above surface of ground.

References.—	°	′	″		
"Pick" (S 12° 31′ E)	0	00	00	.....	⅜ mile.
Left peak of building	0	04	..	.....	⅞ mile.
Right tangent of woods	111	05	..	.....	1 mile.
Large oak tree	129	21	..	.....	¼ mile.
Nail in blaze in oak tree (14 inches diameter)	219	10	40	.....	21.66 meters.
Nail in blaze in oak tree (9 inches diameter)	230	46	50	.....	18.74 meters.
Nail in blaze in cedar tree (6 inches diameter)	262	26	00	.....	19.26 meters.
REFERENCE STATION	285	44	00	.....	5.26 meters.
Left peak of large building	299	31	..	.....	¾ mile.
Chimney showing over fence	308	54	..	.....	¾ mile.
Right peak of large barn	359	34	..	.....	⅞ mile.

PICK.

General locality.—Southern shore of the branch of Wye River bounding Wye Island on the south on western side of entrance to Pickerings Creek. (See Chart No. 32.)

Immediate locality.—Observed station is in cultivated land about 15 feet above high water, 25 yards southwest of edge of field at line of cedar trees, 22 yards west of gully, 40 yards south-southeast of a small clump of trees beyond small gully, and 300 yards east-southeast of fringe of cedar trees along edge of field northeast to east of gully.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Corner" (N 77° 40′ W)	0	00	00	.....	¼ mile.
Nail in blaze in cherry tree (6 inches diameter)	42	54	00	.....	36.64 meters.
Left peak of barn	58	21	..	.....	1¼ miles.

References—Continued.	°	′	″		
Front peak of house	104	57	..	.....	1⅛ miles.
Nail in blaze in cedar tree (6 inches diameter)	110	11	50	.....	27.24 meters.
Nail in blaze in cedar tree (6 inches diameter)	134	46	00	.....	26.37 meters.
Near peak of house	152	11	..	.....	⅝ mile.
Nail in blaze in hackberry tree (5 inches diameter)	169	37	50	.....	23.00 meters.
Left peak of large barn	243	36	..	.....	¼ mile.
Right peak of house	314	37	..	.....	¼ mile.

CORNER.

General locality.—Southern shore of the branch of Wye River bounding Wye Island on the south about ¼ mile west of entrance to Pickerings Creek. (See Chart No. 32.)

Immediate locality.—Observed station is in cultivated land about 15 feet above high water, 50 yards southwest of edge of bank, 55 yards south of gully, 70 yards north-northwest of trees in depression, and 120 yards west of point of bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Right" (N 20° 45′ W)	0	00	00	.....	¼ mile.
Nail in blaze in large elm tree	16	18	00	.....	50.41 meters.
Near peak of building	18	21	..	.....	1 mile.
Nail in blaze in one of twin elm trees	63	58	40	.....	47.11 meters.
Near peak of house	101	49	..	.....	1¼ miles.
Left peak of house with two chimneys	113	02	..	.....	1¼ miles.
Nail in blaze in oak tree (14 inches diameter)	162	16	00	.....	61.44 meters.
Near peak of large barn	238	11	..	.....	¾ mile.
Right corner of large house	275	51	..	.....	1½ miles.
Chimney on middle of large house	280	01	..	.....	1 mile.

RIGHT.

General locality.—Southern shore of the branch of Wye River bounding Wye Island on the south on a point about ½ mile southeast of entrance to Granary Creek and ½ mile northwest of entrance to Pickerings Creek. (See Chart No. 32.)

Immediate locality.—Observed station is in tree-fringed cultivated land about 15 feet above high water, 7 yards south of edge of bank, 9 yards from point of bank at path, 15 yards northwest of edge of bank, and 120 yards east of fence in depression.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Chew" (N 71° 45′ W)	0	00	00	.....	⅛ mile.
Left chimney of long house in woods	33	06	..	.....	1 mile.
Nail in blaze in cedar tree (8 inches diameter)	76	18	00	.....	8.25 meters.
Left one of two large chimneys showing over the trees	131	03	..	.....	1 mile.
Left corner of building	168	32	..	.....	1⅛ miles.
Nail in blaze in hickory tree (10 inches diameter)	182	29	40	.....	10.80 meters.
Nail in blaze in elm tree (10 inches diameter)	243	35	00	.....	29.80 meters.
Right peak of house	269	37	..	.....	¼ mile.
Windmill to right of two large cupolas	287	12	..	.....	⅝ mile.

CHEW.

General locality.—Southern shore of the branch of Wye River bounding Wye Island on the south about ⅜ mile southeast of entrance to Granary Creek and ⅝ mile west-northwest of entrance to Pickerings Creek. (See Chart No. 32.)

Immediate locality.—Observed station is on marsh point about 1 foot above high water, 6 yards northeast of foot of bank 12 feet high, 12 yards west of point of shore, and 10 yards northwest of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Whale" (N 77° 32′ W)	0	00	00	⅛ mile.
Large oak tree	72	58	..	¼ mile.
Tangent of point	131	18	..	⅜ mile.
Left end of building	138	38	..	½ mile.
Near peak of building	175	22	..	1¼ miles.
Near peak of large barn	179	07	..	1 mile.
Nail in blaze in cedar tree (10 inches diameter)	284	33	00	18.19 meters.
Nail in blaze in cedar tree (6 inches diameter)	348	47	10	9.57 meters.
Nail in blaze in cedar tree (5 inches diameter)	358	58	20	21.82 meters.

WHALE.

General locality.—Southern shore of the branch of Wye River bounding Wye Island on the south on a point at western side of entrance to a small cove about ¼ mile south of entrance to Granary Creek. (See Chart No. 32.)

Immediate locality.—Observed station is on a sand-and-grass point about 2 feet above high water, 2 yards south-southeast of shore, 4 yards west-northwest of shore, 9 yards southwest of extreme point, and 7 yards east by north of foot of a terraced bank about 15 feet high.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Matter" (N 77° 03′ W)	0	00	00	½ mile.
Near peak of larger barn	52	33	..	¾ mile.
Large oak tree	115	39	..	¼ mile.
Near corner of building	175	40	..	1¼ miles.
Near peak of large barn	178	45	..	1½ miles.
Nail in blaze in cedar tree (10 inches diameter)	286	06	30	9.40 meters.
Nail in blaze in cedar tree (7 inches diameter)	309	33	10	5.50 meters.
Nail in blaze in cedar tree (5 inches diameter)	315	23	40	9.49 meters.

MATTER.

General locality.—Southern shore of the branch of Wye River bounding Wye Island on the south about ⅜ mile east-southeast of entrance to Dividing Creek and ⅜ mile west-southwest of entrance to Granary Creek. (See Chart No. 32.)

Immediate locality.—Observed station is on small grassy point about 1 foot above high water, 3 yards south of shore and 2 yards north of foot of tree-fringed bank 5 feet high. Cement monument marking reference station is 8.58 meters S 0° 32′ E of observed station.

Marks.—Observed station is nail in center of 2-inch cedar stub set in 2-inch tile pipe with top flush with surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 5 inches above surface of ground.

References.—	°	′	″	
"Deck" (N 78° 05′ W)	0	00	00	200 yards.
Left tangent of wharf	62	43	..	¼ mile.
Near peak of large barn on Pickerings Creek	180	05	..	1⅜ miles.
Nail in blaze in cedar tree (14 inches diameter)	204	10	50	2.31 meters.
REFERENCE STATION	257	32	20	8.58 meters.
Nail in blaze in one of twin cedar trees (8 inches diameter)	276	33	10	3.72 meters.
Nail in blaze in cedar tree (8 inches diameter)	305	43	30	2.42 meters.

DECK.

General locality.—Southern shore of the branch of Wye River bounding Wye Island on the south on a point about ½ mile southeast of entrance to Dividing Creek. (See Chart No. 32.)

Immediate locality.—Observed station is at edge of water bushes on a grass point about 1 foot above high water, 4 yards south of shore, 10 yards west of a round point, 20 yards east of shore, and 30 yards north of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Quarter" (S 38° 13′ W)	0	00	00	¼ mile.
Chimney of house	43	11	..	1¼ miles.
Tangent of point of land	74	32	..	¼ mile.
Left tangent of old wharf	149	46	..	400 yards.
South peak of large barn	170	41	..	¾ mile.
Tangent of point of land	206	49	..	500 yards.
Left cedar tree on point	243	41	..	200 yards.

QUARTER.

General locality.—Southern shore of the branch of Wye River bounding Wye Island on the south about ⅜ mile south-southeast of entrance to Dividing Creek and at east side of entrance to a cove. (See Chart No. 32.)

Immediate locality.—Observed station is on bank in a cultivated field about 12 feet above high water, 2 yards southeast of edge of bank, 100 yards south of trees and break in bluff, and 120 yards north of edge of bank at point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Nodim" (N 87° 45′ W)	0	00	00	½ mile.
Near peak of barn	1	18	..	1⅛ miles.
Chimney outside near end of house	10	34	..	1⅞ miles.
Near corner of barn	53	27	..	⅞ mile.
Right tangent of old wharf	112	25	..	⅜ mile.
Right peak of large barn	304	41	..	¾ mile.
Baldwin windmill	317	20	..	⅞ mile.
Near peak of house	354	43	..	1¼ miles.

NODIM.

General locality.—Southeastern shore of the branch of Wye River bounding Wye Island on the south about ⅜ mile southwest of entrance to Dividing Creek. (See Chart No. 32.)

Immediate locality.—Observed station is in cultivated land about 4 feet above high water, 4 yards south of shore, 8 yards southeast of shore, 25 yards southwest of shore of marsh, and 13 yards south of corner of marsh.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Gusta" (S 21° 08′ W)	0	00	00	⅛ mile.
Near peak of house	42	04	..	1⅜ miles.
Left peak of house	63	19	..	1 mile.
Chimney outside left end of house	134	07	..	⅝ mile.
Right corner of house	152	55	..	¾ mile.
Right tangent of wharf	220	29	..	¾ mile.
Baldwin windmill	354	18	..	⅝ mile.

GUSTA.

General locality.—Southeastern shore of the branch of Wye River bounding Wye Island on the south about ⅞ mile north-northeast of entrance to Lloyd Creek. (See Chart No. 32.)

Immediate locality.—Observed station is in a cultivated field about 10 feet above high water, 8 yards east of edge of bank, 12 yards southeast of edge of bank, 17 yards northeast of edge of bank, 35 yards north-northeast of a depression, and 65 yards southwest of end of cut in bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Sylvia" (S 22° 57′ W)	0	00	00	⅜ mile.
Left tangent of house on Bruffs Island	26	06	..	2 miles.
Left chimney of house	45	15	..	1⅜ miles.
Peak between two chimneys of house	51	42	..	2 miles.
Right peak of house	80	53	..	1 mile.
Cupola of barn	88	46	..	⅝ mile.
Left corner of house	155	40	..	¾ mile.
Right peak of large barn	312	09	..	⅜ mile.
Baldwin windmill	350	13	..	⅜ mile.

SYLVIA.

General locality.—Southeastern shore of the branch of Wye River bounding Wye Island on the south on second prominent point north of entrance to Lloyd Creek. (See Chart No. 32.)

Immediate locality.—Observed station is in a cultivated field about 10 feet above high water, 11 yards east by south of edge of bluff, 22 yards northeast of lone locust tree 2 feet in diameter at the edge of the bank, and 400 yards northwest of a large barn.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Baldwins" (S 27° 13′ W)	0	00	00	¼ mile.
Nail in blaze in locust tree (24 inches diameter)	24	12	20	19.90 meters.
Very large lone tree	40	21	..	22 yards.
Nail in blaze in locust tree (6 inches diameter)	53	42	20	13.37 meters.

References—Continued.	°	′	″		
Left peak of barn	73	23	..	.....	5/8 mile.
Cupola of building	106	19	..	.....	5/8 mile.
Near peak of large house	156	37	..	.....	1 mile.
Near peak of large barn	273	21	..	.....	3/8 mile.
Baldwin windmill	334	37	..	.....	1/4 mile.
Peak of near gable of Baldwin house	336	06	..	.....	1/4 mile.
Spindle on cupola	336	51	..	.....	1/4 mile.

BALDWINS.

General locality.—Southeastern shore of the branch of Wye River bounding Wye Island on the south on a point about 3/8 mile north of entrance to Lloyd Creek. (See Chart No. 32.)

Immediate locality.—Observed station is on a short, sharp point of marsh about 100 yards north of a yacht landing, 7 yards northeast of shore, 10 yards southeast of shore, 12 yards east of extreme end of point, and 8 yards west of foot of bank 8 feet high.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Cousin" (S 25° 13′ E)	0	00	00	.....	1/4 mile.
Flagstaff on yacht-landing house	11	27	..	.....	100 yards.
Windmill	27	44	..	.....	1 1/8 miles.
Left peak of bell cupola	27	55	..	.....	1 1/8 miles.
Spindle on barn cupola	62	53	..	.....	2 miles.
Front peak of boathouse on Bruffs Island	77	51	..	.....	1 1/2 miles.
Near corner of left chimney of house	111	37	..	.....	3/4 mile.
Near peak of barn with cupola	175	20	..	.....	5/8 mile.
Near peak of barn	215	40	..	.....	1 mile.
Nail in blaze in cedar tree (6 inches diameter)	248	59	50	.....	7.91 meters.
Nail in blaze in locust tree (5 inches diameter)	311	47	20	.....	5.36 meters.
Nail in blaze in locust tree (4 inches diameter)	324	04	50	.....	13.45 meters.

COUSIN.

General locality.—Southeastern shore of the branch of Wye River bounding Wye Island on the south about 1 1/2 miles east-northeast of north end of Bruffs Island and at northern side of entrance to Llyod Creek. (See Chart No. 32.)

Immediate locality.—Observed station is in a pasture about 9 feet above high water, 25 yards east of edge of bank, 65 yards south-southeast of a small clump of trees in bottom land, 65 yards north of trees, 60 yards north of edge of a field, and 200 yards south of a house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Lloyd" (S 36° 07′ W)	0	00	00	.....	1/2 mile.
Spindle on barn cupola	8	04	50	.....	2 miles.
Front peak of boathouse	26	05	..	.....	1 1/2 miles.
Left peak of house	63	13	..	.....	1 1/8 miles.
Chimney of house	91	31	..	.....	3/4 mile.
Peak of near gable of Baldwin house	135	42	..	.....	200 yards.
Windmill on large barn	187	08	..	.....	1/4 mile.
Right peak of house	209	44	..	.....	350 yards.
Left peak of bell cupola	333	34	..	.....	1 mile.
Windmill	334	19	..	.....	1 mile.

LLOYD.

General locality.—Southern shore of the branch of East Wye River bounding Wye Island on the south at western side of entrance to Lloyd Creek. (See Chart No. 32.)

Immediate locality.—Observed station is in cultivated land about 12 feet above high water, 70 yards southwest of edge of bank, 65 yards south of edge of bank, 65 yards north-northeast of point of woods and bottom land, and 120 yards northwest of an oak tree.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Edward" (N 84° 02′ W)	0	00	00	⅜ mile.
Near peak of house	32	43	..	1 mile.
Left peak of barn	52	18	..	1⅛ miles.
Near peak of house	76	14	..	⅞ mile.
Peak of near gable of Baldwin house	109	28	..	¾ mile.
Near peak of barn	122	59	..	⅞ mile.
Right peak of large house	132	01	..	1 mile.
Large oak tree	208	57	30	120 yards.

EDWARD.

General locality.—Southern shore of the branch of Wye River bounding Wye Island on the south on a point at eastern side of entrance to Shaw Bay about ¾ mile east-northeast of north end of Bruffs Island and ⅜ mile west of entrance to Lloyd Creek. (See Chart No. 32.)

Immediate locality.—Observed station is in cultivated land about 8 feet above high water, 8 yards southeast of edge of a bluff which is washing away, and 30 yards southwest of a line of large trees at edge of bank and field.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Colonel" (S 0° 10′ W)	0	00	00	½ mile.
Windmill	33	28	20	1¼ miles.
Front peak of boathouse	64	02	..	¾ mile.
Peak between two chimneys of house	114	10	..	1⅜ miles.
Near peak of house	146	12	..	⅞ mile.
Chimney of house	170	06	..	1¼ miles.
Nail in blaze in walnut tree (13 inches diameter)	201	56	40	26.40 meters.
Nail in blaze in locust tree (4 inches diameter)	216	09	10	26.95 meters.
Nail in blaze in locust tree (10 inches diameter)	235	55	40	31.55 meters.
Windmill	309	41	00	⅞ mile.

COLONEL.

General locality.—Southern shore of Shaw Bay on a point at entrance to a small cove about ½ mile from the branch of Wye River bounding Wye Island on the south and ⅝ mile east of Bruffs Island. (See Chart No. 32.)

Immediate locality.—Observed station is in a field about 10 feet above high water, 6 yards southeast of edge of bank which is washing away, 9 yards south-southwest of point of bank, and 3 yards west of top of bank lined with cedar, walnut, and oak trees. Cement monument marking reference station is 18.69 meters S 24° 96′ E of observed station.

Marks.—Observed station is nail in center of 2-inch stub projecting 4 inches above 2-inch tile pipe with top flush with surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″		
"Shaw" (N 68° 12′ W)	0	00	00	.....	¾ mile.
Peak of roof between two chimneys of house	19	29	..	.....	1⅝ miles.
Near peak of house	48	21	..	.....	1⅛ miles.
Peak of near gable of house	100	57	..	.....	1¼ miles.
Nail in blaze in oak tree (20 inches diameter)	110	47	00	.....	5.21 meters.
Nail in blaze in oak tree (6 inches diameter)	183	33	40	.....	6.46 meters.
Nail in blaze in oak tree (7 inches diameter)	213	01	40	.....	13.45 meters.
REFERENCE STATION	224	05	50	.....	18.69 meters.
Near corner of house on Bruffs Island	355	07	..	.....	¾ mile.

SHAW.

General locality.—Southern shore of entrance to the branch of Wye River bounding Wye Island on the south on northern end of Bruffs Island about ⅜ mile southwest of Bordley Point. (See Chart No. 32.)

Immediate locality.—Observed station is in walnut, pine, and cedar woods, about 15 feet above high water, 7 yards southwest of edge of bank, and 100 yards north-northwest of a house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Won" (N 69° 43′ W)	0	00	00	.....	½ mile.
Peak of house between two chimneys	39	56	..	.....	⅞ mile.
Chimney on right end of house	77	44	..	.....	1¾ miles.
Near peak of large barn	88	54	..	.....	1½ miles.
Near peak of house	137	02	..	.....	1⅝ miles.
Chimney of house	174	08	..	.....	1¼ miles.
Right corner of left piazza post	234	04	10	.....	100 yards.
Nail in blaze in walnut tree (28 inches diameter)	235	00	00	.....	29.32 meters.
Nail in blaze in walnut tree (24 inches diameter)	268	35	20	.....	24.30 meters.
Nail in blaze in walnut tree (15 inches diameter)	291	48	10	.....	15.98 meters.

BRUFFS.

General locality.—Eastern shore of Wye River on northwest point of Bruffs Island about ⅞ mile northeast of Bennett Point and ½ mile southwest of Bordley Point. (See Chart No. 32.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 10 yards east of shore, 14 yards southwest of shore, 20 yards southeast of point of marsh, and 18 yards west of point of woods.

Marks.—Observed station is center point of triangle on standard cement monument projecting 7 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Law" (S 2° 07′ W)	0	00	00	.....	½ mile.
"St. Michaels P. E. Church Spire"	17	35	20	.....	5⅜ miles.
"St. Michaels Water Tank"	17	50	20	.....	5¼ miles.
Cupola of barn	38	15	00	.....	4⅛ miles.
Near peak of large barn	54	30	..	.....	3¾ miles.
Large walnut tree	118	55	..	.....	½ mile.
Peak between two chimneys of house	156	15	..	.....	⅞ mile.
Near corner of house	184	29	..	.....	2⅛ miles.

References—Continued.	°	′	″		
Right peak of house	208	24	..	.....	⅞ mile.
Nail in blaze in tree (4 inches diameter)	257	20	30	.....	17.38 meters.
Nail in blaze in walnut tree (3 inches diameter)	278	43	50	.....	27.96 meters.
Nail in blaze in cedar tree (4 inches diameter)	310	49	30	.....	41.27 meters.
Smoke pipe of building in woods	314	28	..	.....	200 yards.

LAW.

General locality.—Southeastern shore of Wye River about ¾ mile east of Bennett Point and ⅛ mile southwest of south end of Bruffs Island. (See Chart No. 32.)

Immediate locality.—Observed station is in cultivated land about 15 feet above high water, 8 yards southeast of edge of a bluff, 45 yards southwest of a wire fence, 100 yards northeast of a clump of trees, and 150 yards northwest of a black walnut tree at edge of field.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"James" (S 36° 41′ W)	0	00	00	.....	⅓ mile.
"Rich Neck Water Tower"	47	20	10	.....	4⅛ miles.
Chimney of house on Tilghmans Point Farm	57	48	..	.....	3¾ miles.
Cupola of right barn	58	51	..	.....	3¾ miles.
Near peak of large barn	128	41	..	.....	1¼ miles.
Right corner of building in woods	169	31	..	.....	⅜ mile.
Nail in blaze in cedar tree (4 inches diameter)	182	21	50	.....	38.67 meters.
Left peak of house	199	10	..	.....	2 miles.
Nail in blaze in black walnut tree (7 inches diameter)	206	30	30	.....	45.23 meters.
Nail in blaze in cedar tree (4 inches diameter)	224	46	40	.....	59.96 meters.
Black walnut tree (18 inches diameter)	284	14	..	.....	150 yards.
Right corner of barn	297	53	..	.....	¼ mile.
Large cedar tree	338	23	..	.....	100 yards.

JAMES.

General locality.—Eastern shore of Miles River at southern side of entrance to Wye River about ⅝ mile southwest of Bruffs Island and ⅝ mile southeast of Bennett Point. (See Chart No. 32.)

Immediate locality.—Observed station is in a cultivated field about 20 feet above high water, 17 yards east of edge of a bluff at shore, and 14 yards south of edge of a bluff 18 feet high with uniform slope to shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Frank" (S 3° 18′ W)	0	00	00	.....	¼ mile.
"St. Michaels P. E. Church Spire"	15	09	00	.....	4½ miles.
"St. Michaels Water Tank"	17	06	00	.....	4⅜ miles.
South chimney of house	63	16	..	.....	4 miles.
South chimney of house on Tilghmans Point Farm	97	14	..	.....	3½ miles.
Right tangent of Tilghmans Point	109	08	..	.....	3¼ miles.
Chimney of small cabin	174	03	..	.....	1⅜ miles.
West gable of barn	190	22	..	.....	2¾ miles.
Cupola of barn	297	26	..	.....	⅝ mile.

FRANK.

General locality.—Eastern shore of Miles River about ½ mile south of entrance to Wye River and 1 mile northeast of Herring Island. (See Chart No. 32.)

Immediate locality.—Observed station is in cultivated field about 18 feet above high water, 8 yards east of a bluff washed by high water, and 125 yards south of a ditch. Cement monument marking reference station is 25.51 meters S 87° 47′ E of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″		
"Wood" (S 12° 55′ E)	0	00	00	.....	¼ mile.
"St. Michaels P. E. Church Spire"	32	13	00	.....	4¼ miles.
"St. Michaels Water Tank"	34	18	00	.....	4⅛ miles.
East gable of barn	59	33	..	.....	3 miles.
"Rich Neck Water Tank"	105	14	00	.....	3⅞ miles.
South chimney of house on Tilghmans Point Farm	117	24	..	.....	3½ miles.
Right tangent of Tilghmans Point	129	22	..	.....	3¼ miles.
South gable of small house	185	22	..	.....	1¼ miles.
REFERENCE STATION	285	08	10	.....	25.51 meters.
Cupola on barn	289	06	.	.....	⅜ mile.
East chimney of house	335	53	..	.....	1⅛ miles.

WOOD.

General locality.—Eastern shore of Miles River about 1¼ miles southeast of Bennett Point, 1¼ miles east-northeast of Herring Island and ⅝ mile north-northwest of entrance to Woodland Creek. (See Chart No. 32.)

Immediate locality.—Observed station is in a cultivated field about 18 feet above high water, 18 yards east of shore and top of vertical bank 18 feet high, and 3 yards south of a wire fence.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Pearson" (N 65° 24′ W)	0	00	00	.....	3¼ miles.
Right tangent of Tilghmans Point	5	29	..	.....	3½ miles.
Left tangent of marsh on Bennett Point	36	49	..	.....	1⅛ miles.
West gable of barn	127	56	..	.....	½ mile.
"St. Michaels P. E. Church Spire"	266	53	00	.....	4 miles.
"St. Michaels Water Tank"	269	09	00	.....	3⅞ miles.
North chimney of house	321	42	..	.....	3 miles.
South chimney of house on Tilghmans Point Farm	353	51	..	.....	3⅝ miles.

HERR.

General locality.—In Miles River on Herring Island about 1¼ miles southwest of entrance to Wye River. (See Chart No. 32.)

Immediate locality.—Observed station is on sandy ground in the center of Herring Island about 2 feet above high water, 30 yards northeast of shore and 30 yards southwest of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Rich Neck Water Tank" (N 77° 26′ W)....	0	00	00	.....	3 miles.
North chimney of house on Tilghmans Point Farm.....	16	28	..	.....	2⅞ miles.
Right tangent of Tilghmans Point.....	31	07	..	.....	2⅞ miles.
South gable of barn.....	81	37	..	.....	7 miles.
North chimney of small house.....	108	59	..	.....	2¾ miles.
Cupola of barn.....	149	17	..	.....	1½ miles.
North gable of barn.....	198	40	..	.....	1¾ miles.
East gable of barn.....	209	40	..	.....	3 miles.
Left chimney of Seth house.....	333	42	..	.....	2 miles.
North chimney of house.....	345	25	..	.....	2⅜ miles.

OLLIE.

General locality.—Eastern shore of Miles River about 1 mile north of entrance to Leeds Creek and ¾ mile northeast of Deep Water Point. (See Chart No. 32.)

Immediate locality.—Observed station is in woods about 8 feet above high water, 6 yards west of edge of bank which is washing rapidly, and 8 yards northeast of large pine tree at edge of bank. Cement monument marking reference station is 14.42 meters N 74° 15′ W of observed station.

Marks.—Observed station is center of 2-inch tile pipe with top flush with surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of the ground.

References.—	°	′	″		
"Swing" (S 1° 20′ W).....	0	00	00	.....	¾ mile.
Nail in blaze in pine tree (3 feet diameter)..	25	56	00	.....	7.62 meters.
"St. Michaels Water Tank".....	37	58	20	.....	2¼ miles.
Weather vane on house on Deep Water Point Farm.....	57	10	..	.....	1 mile.
Near peak of house.....	91	55	..	.....	1⅝ miles.
Chimney of house on Tilghmans Point Farm.	130	38	..	.....	4½ miles.
Right tangent of Tilghmans Point.....	140	03	..	.....	4½ miles.
"Parsons Island Water Tank".....	157	19	40	.....	7¼ miles.
Left tangent of main woods on Bennett Point.	172	00	..	.....	3 miles.
Chimney on right end of house in woods.....	180	00	..	.....	4 miles.
Nail in blaze in pine tree (8 inches diameter).	240	27	..	.....	10.56 meters.
REFERENCE STATION.....	284	24	40	.....	14.42 meters.
Nail in blaze in pine tree (7 inches diameter).	285	22	10	.....	10.55 meters.
Nail in blaze in pine tree (7 inches diameter).	316	39	..	.....	12.52 meters.

DEEWAT.

General locality.—Western shore of Miles River on Deep Water Point, about ⅞ mile west-northwest of Fairview Point. (See Chart No. 32.)

Immediate locality.—Observed station is on sand and grass point about 2 feet above high water, 8 yards southwest of shore, 7 yards northwest of shore, and 10 yards west of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"St. Michaels Water Tank" (S 33° 08′ W)...	0	00	00	.....	1½ miles.
Weather vane on Dodson house.....	53	13	..	.....	¼ mile.
Tangent of Tilghmans Point.....	117	58	..	.....	4⅝ miles.
Right tangent of Parsons Island.....	133	28	..	.....	7⅛ miles.
Large square chimney of Starr house.....	179	59	..	.....	2⅝ miles.
Large chimney of house.....	212	08	..	.....	1⅛ miles.

References—Continued.	°	′	″		
Cupola on Rieman house	271	59	..	.....	1¼ miles.
Tangent of Long Point	287	02	..	.....	3¼ miles.
Steeple	295	04	..	.....	4½ to 5 miles.
Large chimney of house	297	41	..	.....	2⅞ miles.
Large chimney of house	309	30	..	.....	2⅜ miles
"St. Michaels P. E. Church Spire"	353	40	40	.....	1⅝ miles.

SPAR.

General locality.—Southwestern shore of Miles River about 1 mile southeast of entrance to Hambleton Creek and ⅜ mile northwest of Deep Water Point. (See Chart No. 32.)

Immediate locality.—Observed station is on cedar-and-locust-fringed shore about 4 feet above high water, 11 yards west of shore, 12 yards southwest of shore, and 15 yards south of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Sara" (N 39° 19′ W)	0	00	00	.....	1 mile.
Chimney of house on Tilghmans Point Farm	1	19	..	.....	4 miles.
Near peak of barn beyond Herring Island	42	38	..	.....	8¾ miles.
Nail in blaze in oak tree (3 inches diameter)	54	59	00	.....	4.52 meters.
Right tangent of chimney	125	32	..	.....	1¼ miles.
Tangent of Deep Water Point	181	22	..	.....	⅜ mile.
Nail in blaze in locust tree (3 inches diameter)	240	08	40	.....	6.84 meters.
Nail in blaze in locust tree (4 inches diameter)	279	53	30	.....	3.58 meters.

SARA.

General locality.—Southwestern shore of Miles River about 3¼ miles south-southeast of northern end of Tilghmans Point 1¼ miles southwest of Herring Island and on point at eastern side of entrance to Hambleton Creek. (See Chart No. 32.)

Immediate locality.—Observed station is in a cultivated field about 15 feet above high water, 16 yards southwest of a bluff 12 feet high with uniform slope to shore, and 20 yards east of depression 4 feet deep.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Wood" (N 52° 14′ E)	0	00	00	.....	2 miles.
West chimney of house	127	40	..	.....	½ mile.
Nail in blaze in hackberry tree (12 inches diameter)	158	58	50	.....	22.02 meters.
Nail in blaze in cedar tree (12 inches diameter)	204	12	50	.....	12.66 meters.
Right tangent of Tilghmans Point	282	58	..	.....	3¼ miles.
"Parsons Island Water Tank"	297	11	00	.....	6⅛ miles.
South gable of barn	315	40	..	.....	8 miles.
South gable of house	323	03	..	.....	6 miles.
South gable of barn	340	49	..	.....	4 miles.

SETH.

General locality.—Southwestern shore of Miles River on a point about 2½ miles south of northern end of Tilghmans Point and ¾ mile northwest of entrance to Porters Creek. (See Chart No. 32.)

Immediate locality.—Observed station is in clump of cedar trees about 12 feet above high water, 9 yards southwest of top of vertical bank, washed by high water, 50 yards northwest of extreme end of

point, and 400 yards northeast of a house. Cement monument marking reference station is 9.56 meters S 67° 41′ W of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 12 inches above surface of ground.

References.—

	°	′	″		
"Herr" (N 79° 07′ E)	0	00	00	.....	2 miles.
Nail in blaze in cedar tree (12 inches diameter)	145	20	20	.....	10.89 meters.
REFERENCE STATION	168	34	30	.....	9.56 meters.
Nail in blaze in cedar tree (6 inches diameter)	219	59	45	.....	4.44 meters.
South gable of house	282	12	..	.....	5¼ miles.
South gable of barn	305	34	..	.....	6 miles.
West gable of house	312	30	..	.....	6 miles.
Cupola on barn	356	52	..	.....	3 miles.

DIXON.

General locality.—Southeastern side of Eastern Bay on Tilghmans Point about halfway between Eastern Bay and Miles River, ¾ mile southwest of northern end of point, and 1⅝ miles northeast of Claiborne Wharf. (See Chart No. 32.)

Immediate locality.—Observed station is on top of a 2-story square frame house on Tilghmans Point Farm.

Marks.—Observed station is center of upright staff, 3 inches square, set in the center of trap door at apex of square roof.

References.—None necessary.

PEARSON.

General locality.—Western shore of Miles River on Tilghmans Point about ⅜ mile south-southeast of northern end of point. (See Chart No. 32.)

Immediate locality.—Observed station is on wooded bluff about 20 feet above high water, 5 yards west of top of vertical bank at shore, and 100 yards north of first point south of northern end of Tilghmans Point. Cement monument marking reference station is 12.66 meters N 86° 03′ W of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 6 inches above surface of ground.

References.—

	°	′	″		
"Green" (N 45° 46′ E)	0	00	00	.....	3⅜ miles.
South gable of barn	1	14	..	.....	5 miles.
South chimney of house	11	48	..	.....	3¼ miles.
West chimney of house	26	31	..	.....	2⅞ miles.
West gable of barn	62	31	..	.....	3½ miles.
East gable of barn	76	09	..	.....	4 miles.
West chimney of house	111	30	..	.....	3¾ miles.
North chimney of house	125	20	..	.....	3⅝ miles.
Chimney of house	130	36	..	.....	2½ miles.
Nail in blaze in white oak tree (8 inches diameter)	178	09	40	.....	5.31 meters.
REFERENCE STATION	228	11	00	.....	12.66 meters.
Nail in blaze in white oak tree (12 inches diameter)	239	19	20	.....	9.99 meters.
South gable of house on Parsons Island	317	17	..	.....	3½ miles.
South gable of barn	350	02	..	.....	4⅜ miles.

BOUNDARIES OF OYSTER BARS.

EXPLANATION.

The law of the United States authorizing the cooperation of the Department of Commerce and Labor in the survey of natural oyster bars of Maryland provides for the designation and employment by the Department of Commerce and Labor of such officers, experts, and other technically qualified persons "as may be necessary to cooperate with the Maryland State Board of Shell Fish Commissioners in making a survey of and locating the natural oyster beds, bars, and rocks in the waters within the State of Maryland." The oyster laws of Maryland provide that the Maryland Shell Fish Commissioners, with the aid of such persons as may be designated by the Government, shall proceed "to have laid out, surveyed, and designated on the said charts the natural beds and bars, and shall cause to be marked and defined as accurately as practicable the limits and boundaries of the natural beds, bars, and rocks as established by said survey, and they shall take true and accurate notes of said survey in writing, and make an accurate report of said survey, setting forth such a description of landmarks as may be necessary to enable the said board, or their successors, to find and ascertain the boundary lines of the said natural oyster beds, bars, and rocks, as shown by a delineation on the maps and charts." The oyster laws of Maryland also provide in another section that there shall "be made a true and accurate survey of the natural oyster beds, bars, and rocks * * * with reference to fixed and permanent objects on the shore, giving courses and distances, to be fully described and set out in a written report of said survey."

Under the provisions of the laws quoted above the State of Maryland, in cooperation with the Department of Commerce and Labor, must define the boundaries of the natural oyster bars "as accurately as practicable" and also "with reference to fixed and permanent objects on the shore, giving courses and distances." The requirement of "as accurately as practicable" is easily fulfilled by definition of the location of the corners of the oyster bars by latitude and longitude. In fact, this method is probably the most satisfactory and accurate one that could be used for all purposes of legal definition or for relocation of the oyster-bar boundaries by competent engineers. Therefore the additional requirement of "giving courses and distances" is superfluous and is only fulfilled in the published definitions on account of the specific provisions of the law making it compulsory. This part of the description of boundaries has involved an immense amount of extra computations in order to prevent technical discrepancies between the latitude and longitude of a corner of an oyster bar and its distance and bearing from objects on shore of known latitude and longitude without adding anything to the accuracy and very little to the convenience of practical use of the descriptions of the oyster-bar boundaries.

As provided by law the boundaries of the oyster bars are all straight lines, but in the work already completed they have inclosed areas of all shapes from triangles to complicated 14-sided figures, and of all sizes from 4 acres to 7,548 acres. The sides have varied in length from 93 to 7,529 yards, and in some cases the corners of the boundaries have been practically at the triangulation stations from which they are located, while in other instances they were over 13,600 yards from the landmarks most available for the purpose of fixing their position.

The varied characteristics of the legal boundaries of the oyster bars indicated by the above statement, together with the complicated requirements of the law under which the survey has been made and the magnitude of the work with the consequent need of fixed and uniform methods, have made the problem of describing the boundaries one of considerable difficulty and great importance.

The boundaries of the oyster bars of Maryland, as established by the Shell Fish Commission and delineated on the Coast and Geodetic Survey charts and projections and on the leasing charts of the commission, are technically defined and described by a method somewhat different from that used in other oyster surveys. But it is believed that the forms finally adopted will fulfill all needs of the survey for both the present and the future.

METHOD OF DESCRIBING BOUNDARIES.

The descriptions have been arranged in tabular form, thus avoiding many hundred repetitions of the same words by making one explanation of the tables sufficient for all oyster bars in each county.

Title.—At the top of each tabular form is given the legal name of the oyster bar to be described, and the one by which it is known and designated in the published oyster records and on the oyster charts. The adopted name of the oyster bar is the one used locally, as nearly as could be ascertained by the hydrographic engineer of the commission; and when there was no local name in common use a name was selected from one of the prominent features of the vicinity that would naturally suggest the section of the waters where the oyster bar was located.

Underneath the name, in parentheses, is given the general locality of the oyster bar and the serial number of the "Maryland Oyster Chart" on which its legal boundaries are shown.[1]

First column.—This column, under the heading of "Corner of bar," gives the number corresponding to the corner of the boundary as shown on the charts and to the number on the buoy marking the actual corner of the bar. The numbers of the corners have been assigned by naming the southernmost point No. 1, thence proceeding in a clockwise direction around the bar. Where a corner of one oyster bar is identical with the corner of the boundaries of one or more other oyster bars, only the number of the corner of the oyster bar being described in the table is given in this column.

Second and third columns.—These two columns, under the headings of "Latitude" and "Longitude," give the geographic positions of the corners. These positions have been adopted by the commission as the primary technical definition of the location of the corners, and should be considered as final in case of a dispute arising from discrepancies caused by other means of location. The latitudes and longitudes given in these

[1] These charts can be obtained by application to the Superintendent of the Coast and Geodetic Survey at Washington, D. C.

columns are based on the United States standard datum of the Coast and Geodetic Survey, and the points thus defined can be relocated from distant triangulation stations of the survey, even though all the landmarks and buoys originally used for their location have been destroyed by natural or other causes.

Fourth and fifth columns.—These two columns, under the general heading of "True bearing"[1] and the specific headings "Forward" and "Back," give bearings measured from a true north-and-south line. The three "Forward" bearings are from the corner of the boundary designated in the first column to the triangulation stations named on the corresponding lines in the last column, and the three "Back" bearings are from these same stations in the last column to the corresponding corner of boundary in the first column. The difference in minutes of arc between the forward and back bearings shown in some cases is actual and not accidental, and is due to the fact that the computations took into account the spheroidal shape of the earth.

Sixth column.—This column, under the heading of "Distance," gives the three computed distances in yards from the corner of the bar noted in the first column to the three triangulation stations named on the corresponding lines in the last column, and vice versa.

Seventh column.—This column, under the heading of "U. S. C. & G. S. triangulation station,"[2] gives the names of the landmarks from which were computed the corresponding "Latitude," "Longitude," "True bearing," and "Distance" of the "Corner of the bar" designated in the first column. A full description of the location and markings of these triangulation stations is given in another part of this publication under the heading of "Descriptions of triangulation stations."

SURVEYING METHODS FOR RELOCATION OF BOUNDARIES.

There are a number of methods that can be used in the relocation of the actual boundaries of the natural oyster bars as technically described in this publication and delineated on the published charts of the Coast and Geodetic Survey and the leasing charts of the Shell Fish Commission.

The following brief descriptions of five of these more or less different methods assume a certain amount of experience and knowledge on the part of the engineer in the particular kind of surveying under consideration, and are only intended as reminders of ways and means that can be used.

There are two problems that are likely to present themselves to those interested in the boudaries of natural oyster bars: One, to determine whether the buoys marking the corners have been dragged or otherwise moved from their correct positions, and the other, to relocate or reestablish a buoy at the point from which it was removed. The different ways of solving these two problems partly depend upon the instruments possessed by the engineer and his assistants and partly on his training and experience.

(1) *Triangulation.*—This method is the one that will give the greatest accuracy, but on account of its requiring special data and instruments, and being an operation rarely used by engineers not engaged in geodetic surveying, it is recommended only for

[1] The mean magnetic variation for Queen Annes County was 6° 15′ west of north in 1911 and increasing at the rate of 5′ yearly.

[2] Geographic positions of these triangulation stations can be obtained by application to the Superintendent of the Coast and Geodetic Survey, Washington, D. C.

cases in dispute that can not be settled satisfactorily by some other method. An explanation of this class of work would be too long for a report of this sort, and those not familiar with this method are referred to the publications on the subject by the Coast and Geodetic Survey.

(2) *Hydrographic.*—This method is the most simple and satisfactory one that can be adopted if the surveyor can obtain the use of the necessary instruments and assistants. It is the one best suited for the work of the engineers of the commission in relocating corners of boundaries, as it gives results of the accuracy ordinarily required and is rapid in execution. Besides, it has the advantage of being available whenever three triangulation stations of suitable relative positions are visible from the offshore points needing relocation.

Most navigators and others familiar with the use of a sextant are well acquainted with the graphic three-point method of fixing a position on water, and only a brief description of the operation will be stated.

In the case where there is only one engineer having a single sextant, the three-point method can be used if the two angles determining the position of a buoy are first derived from the "Forward" bearings given in the tabular forms describing the boundaries of the oyster bars. For example, take "Broad Creek" oyster bar, which is the first one described in this publication, and assume that "Corner No. 3," is to be examined as to its position. The angle between the two landmarks "Sandy Point Light" and "Ring" as determined from right to left from the forward bearings from this corner is 98° 09′ and the angle between "Ring" and "Railway Water Tank" is 71° 08′. Having these two angles, the engineer proceeds to the buoy of doubtful location and measures the actual sextant angles between the landmarks for which the calculations were made. If the measured and calculated angles do not agree the buoy is not in its correct position and the boundary corner must be relocated. This is accomplished by moving the boat about until a point is reached where the angles do agree, and this point being the desired location, the buoy can be placed in its correct position.

If the engineer can obtain the use of both a sextant and a three-arm protractor ("position finder"), the availability of the hydrographic method is increased, as the use of the protractor is essential in case of the washing away or destruction of one or more of the landmarks originally used in describing the boundaries. Under these circumstances, any three landmarks of suitable relative position that are visible from the point to be located can be utilized. For example, the engineer can proceed to the buoy of doubtful position and measure the two adjacent sextant angles between the three landmarks selected. These two angles are set off on the three-arm protractor and the actual position of the buoy plotted on the chart by shifting the protractor about until the edge of each of the three arms passes through the center of the symbols on the chart marking the position of the three landmarks selected. The center of the hub of the protractor will indicate on the chart the actual position of the buoy, and if the point thus obtained does not coincide with the true position of the corner of the boundary as given on the chart, the surveyor can proceed to locate the buoy correctly by reversing the operation. This is done by placing the center point of the hub of the protractor over the corner of the boundary in question and measuring on the chart the two adjacent protractor angles between the three selected landmarks. One of the angles thus

obtained is set on the sextant and the boat moved about until the two landmarks are shown by the sextant to subtend the same angle obtained from the protractor. The second angle is then placed on the sextant and the same operation gone through, and so on, first using one angle on the sextant then the other until a point is reached where both observed sextant angles are practically identical with the protractor angles. The point thus located is the desired one and the buoy can be placed to mark the true position of the corner of the boundary in question.

If the engineer possesses two sextants and a protractor, this problem is far easier of solution, as the two angles can be set off on separate sextants and the observer can quickly find the desired point where they agree with the protractor angles by using one sextant after the other without the need of resetting either.

If there are two observers, two sextants, and a protractor, it can be seen that the best conditions for both rapid and accurate hydrographic location of a point is attained. In fact, this is the method by which the buoys at the corners of the boundaries were originally placed by the hydrographic engineer to the commission.

(3) *Magnetic bearings from offshore.*—This method of fixing a position on water is a simple and well-known one in navigation. It is available to anyone having a boat compass and will be of special use to the State fishery force in investigating cases where buoys are supposed to have been moved for illegal purposes.

In the case where a buoy is supposed to have been moved from its true position the observer can take compass bearings to the three landmarks given in the last column of the tables opposite the boundary corner in question. These bearings are then corrected for the local declination,[1] and if the results agree with the published bearings the buoy is correctly located.

In the case where the buoy is not in its correct position, or has disappeared altogether, the desired point can be determined by maneuvering the vessel until the corrected bearings agree with the ones in the tabular descriptions, when the buoy can be anchored in its proper location.

In the case where the landmarks, for which the bearings are published, have been destroyed or washed away, any landmarks whose positions are indicated on the charts can be used. This can be done by getting their bearings directly from the chart by parallel rulers or a protractor and then applying these new bearings in the same manner as the ones published in the tables.

(4) *Magnetic bearings from shore.*—This method will be of special value to engineers having an ordinary surveyor's compass. The compass can be set over the point marking a "triangulation station" on shore, the name of which is given in the last column opposite the "corner" in question. The instrument is then set at the corresponding "back" bearing (corrected for local magnetic declination) given in the fifth column of the tables opposite the "corner" in question. The direction thus determined will give one range on which the desired point must be located. The compass can then be moved to a second triangulation station and another range located in a similar manner. The intersection of these two range lines will give the desired point; but in general it should be checked by an additional range line determined from a third station.

[1] The mean magnetic variation for Queen Annes County is 6° 15′ west of north in 1911 and increasing at the rate of 5′ yearly.

(5) *Horizontal angles measured at landmarks.*—This process is a modification of the triangulation method, and will be useful to engineers who have a transit and desire considerable accuracy.

The instrument is placed over a "triangulation station," the name of which appears in the last column of the tabular description opposite the "corner" in question. The telescope is then pointed to the landmark indicated in the "Descriptions of landmarks" as having a direction of 0° 00′ 00″ from the triangulation station being occupied by the transit. The tabular description of the boundaries is next examined and the "back" bearing of the questionable boundary "corner" from the landmark being occupied is taken out. The angle calculated from this "back" bearing and the bearing given in parentheses alongside the zero landmark in the "Descriptions of landmarks" is then set off on the transit and a range line established on which the desired point must be located. A similar process is then carried on at a second station, and so on until the position of the buoy is satisfactorily fixed.

BOUNDARIES OF NATURAL OYSTER BARS.

BROAD CREEK.

(*Chesapeake Bay—Chart No. 29.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station.
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 58 36.70	76 21 17.00	S 63 30 E	N 63 30 W	1,108	Wash.
			N 34 56 E	S 34 57 W	5,153	Ring.
			N 31 04 W	S 31 05 E	5,534	Sandy Point Light.
2	38 58 42.32	76 21 34.67	S 64 51 E	N 64 51 W	1,610	Wash.
			N 40 14 E	S 40 16 W	5,287	Ring.
			N 27 43 W	S 27 44 E	5,138	Sandy Point Light.
3	39 01 44.75	76 20 05.62	S 71 18 W	N 71 16 E	4,996	Sandy Point Light.
			S 26 51 E	N 26 51 W	2,373	Ring.
			N 82 01 E	S 82 02 W	2,439	Railway Water Tank.
4	39 01 39.96	76 19 43.20	S 74 51 W	N 74 49 E	5,514	Sandy Point Light.
			S 13 51 E	N 13 51 W	2,015	Ring.
			N 74 40 E	S 74 41 W	1,892	Railway Water Tank.
5	38 59 38.62	76 19 57.54	N 21 55 E	S 21 55 W	2,303	Ring.
			N 61 48 W	S 61 50 E	5,610	Sandy Point Light.
			S 23 04 W	N 23 04 E	2,807	Wash.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

LOVE POINT.

(*Chesapeake Bay off Love Point—Chart No. 29.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 02 07.35	76 19 30.60	S 74 10 E	N 74 09 W	1,552	Railway Water Tank.
			N 85 49 E	S 85 50 W	2,303	Amour.
			N 56 12 E	S 56 14 W	4,745	Love Point Light.
2	39 02 10.90	76 19 54.10	S 75 35 E	N 75 34 W	2,180	Railway Water Tank.
			N 89 03 E	S 89 04 W	2,916	Amour.
			N 61 05 E	S 61 07 W	5,211	Love Point Light.
3	39 03 33.70	76 19 32.30	S 24 45 E	N 24 45 W	3,674	Railway Water Tank.
			S 40 28 E	N 40 28 W	3,608	Amour.
			S 86 05 E	N 86 04 W	3,998	Love Point Light.
4	39 03 18.65	76 18 33.10	S 0 23 W	N 0 23 E	2,827	Railway Water Tank.
			S 19 19 E	N 19 19 W	2,370	Amour.
			N 84 30 E	S 84 31 W	2,443	Love Point Light.
5	39 04 15.35	76 16 34.41	S 31 33 E	N 31 31 W	6,057	Wickes Beach.
			N 25 49 E	S 25 50 W	6,240	Stevens.
			N 1 56 W	S 1 56 E	8,703	Swan Point 3.
	Thence along county boundary as delineated on Chart No. 29 to corner No. 6.					
6	39 03 53.27	76 16 11.63	S 30 11 E	N 30 10 W	5,112	Wickes Beach.
			N 18 25 E	S 18 26 W	6,705	Stevens.
			N 5 24 W	S 5 24 E	9,485	Swan Point 3.
7	39 02 55.16	76 17 18.66	S 44 10 W	N 44 11 E	2,838	Railway Water Tank.
			S 60 26 E	N 60 24 W	4,981	Wickes Beach.
			N 24 48 E	S 24 49 W	1,131	Love Point Light.

STRONG BAY.

(*Lower Chester River—Chart No. 29.*)

1	39 00 55.40	76 17 09.16	S 3 37 E	N 3 37 W	2,853	Macum.
			N 68 50 E	S 68 52 W	4,379	Wickes Beach.
			N 2 32 E	S 2 32 W	5,070	Love Point Light.
2	39 01 52.82	76 18 04.90	S 86 08 E	N 86 06 W	5,561	Wickes Beach.
			N 28 23 E	S 28 23 W	3,556	Love Point Light.
			N 85 01 W	S 85 01 E	764	Railway Water Tank.
3	39 01 59.81	76 17 58.12	N 27 36 E	S 27 36 W	3,264	Love Point Light.
			N 17 50 W	S 17 50 E	443	Amour.
			S 79 47 W	N 79 47 E	955	Railway Water Tank.
4	39 01 14.60	76 16 49.55	S 5 30 W	N 5 29 E	3,512	Macum.
			N 75 20 E	S 75 22 W	3,688	Wickes Beach.
			N 63 42 W	S 63 43 E	3,060	Railway Water Tank.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

CARVEL.

(*Lower Chester River—Chart No. 29.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 59 41.98	76 16 57.80	S 70 07 E	N 70 05 W	5,378	Muddy.
			N 43 01 E	S 43 02 W	5,548	Wickes Beach.
			N 18 46 W	S 18 46 E	5,354	Amour.
2	39 00 21.36	76 17 27.50	S 21 18 E	N 21 18 W	1,824	Macum.
			N 59 08 E	S 59 10 W	5,319	Wickes Beach.
			N 14 07 W	S 14 07 E	3,858	Amour.
3	38 59 48.72	76 16 28.53	S 64 22 E	N 64 20 W	4,755	Muddy.
			N 38 13 E	S 38 14 W	4,873	Wickes Beach.
			N 27 14 W	S 27 15 E	5,446	Amour.

FERRY (QUEEN ANNES COUNTY).

(*Lower Chester River—Chart No. 29.*)

1	38 59 23.94	76 15 34.62	S 66 55 E	N 66 54 W	3,118	Muddy.
			N 59 33 E	S 59 35 W	4,695	Narrows Point.
			N 18 53 E	S 18 54 W	4,930	Wickes Beach.
2	39 00 09.66	76 15 58.46	S 52 10 W	N 52 10 E	2,128	Macum.
			S 51 40 E	N 51 41 W	4,455	Muddy.
			N 35 27 E	S 35 28 W	3,833	Wickes Beach.
3	39 00 29.37	76 15 30.72	S 38 53 E	N 38 52 W	4,405	Muddy.
			N 87 30 E	S 87 32 W	3,949	Narrows Point.
			N 31 17 E	S 31 18 W	2,876	Wickes Beach.
	Thence along county boundary as delineated on Chart No. 29 to corner No. 4.					
4	39 00 04.45	76 14 38.00	S 28 01 E	N 28 00 W	2,932	Muddy.
			N 68 25 E	S 68 26 W	2,750	Narrows Point.
			N 1 51 E	S 1 51 W	3,299	Wickes Beach.
5	38 59 49.10	76 14 48.41	S 38 34 E	N 38 33 W	2,649	Muddy.
			N 61 37 E	S 61 38 W	3,218	Narrows Point.
			N 5 42 E	S 5 42 W	3,834	Wickes Beach.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

LONG POINT (CHESTER RIVER).

(*Lower Chester River—Charts Nos. 29 and 30.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 59 03.26	76 13 15.32	N 84 48 E	S 84 49 W	3,528	Bluebeard.
			N 7 05 E	S 7 05 W	3,099	Narrows Point.
			S 56 42 W	N 56 41 E	956	Muddy.
2	38 59 28.93	76 14 37.13	S 44 14 E	N 44 14 W	1,941	Muddy.
			N 48 55 E	S 48 56 W	3,363	Narrows Point.
			N 1 04 E	S 1 04 W	4,497	Wickes Beach.
3	38 59 49.10	76 14 48.41	S 38 34 E	N 38 33 W	2,649	Muddy.
			N 61 37 E	S 61 38 W	3,218	Narrows Point.
			N 5 42 E	S 5 42 W	3,834	Wickes Beach.
4	39 00 04.45	76 14 38.00	S 28 01 E	N 28 00 W	2,932	Muddy.
			N 68 25 E	S 68 26 W	2,750	Narrows Point.
			N 1 51 E	S 1 51 W	3,299	Wickes Beach.
5	38 59 21.24	76 13 13.75	S 36 36 W	N 36 36 E	1,410	Muddy.
			S 85 17 E	N 85 16 W	3,484	Bluebeard.
			N 7 51 E	S 7 52 W	2,492	Narrows Point.

FLOOD POINT.

(*Chester River Entrance Kent Island Narrows—Chart No. 29.*)

1	38 58 37.28	76 14 44.20	S 20 44 W	N 20 44 E	862	Bridge.
			N 77 07 E	S 77 07 W	1,581	Muddy.
			N 17 46 E	S 17 46 W	420	Thin.
2	38 58 42.52	76 14 47.62	S 12 20 W	N 12 20 E	1,005	Bridge.
			N 83 50 E	S 83 51 W	1,640	Muddy.
			N 44 21 E	S 44 21 W	312	Thin.
	Thence from corner No. 2 along the mean low-water line of the shore to corner No. 3, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
3	38 58 48.66	76 14 37.20	S 22 22 W	N 22 21 E	1,286	Bridge.
			S 13 16 E	N 13 16 W	1,641	Railroad.
			S 88 41 E	N 88 41 W	1,357	Muddy.
4	38 58 46.95	76 14 30.61	S 30 21 W	N 30 21 E	1,311	Bridge.
			S 7 32 E	N 7 32 W	1,557	Railroad.
			N 88 43 E	S 88 43 W	1,184	Muddy.
5	38 58 39.02	76 14 35.72	S 31 26 W	N 31 26 E	1,013	Bridge.
			N 77 25 E	S 77 26 W	1,351	Muddy.
			N 15 34 W	S 15 34 E	354	Thin.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

KENT ISLAND NARROWS.

(*Kent Island Narrows—Chart No. 29.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 58 11.04	76 14 47.80	S 23 36 E	N 23 36 W	1,789	Marshy.
			S 63 09 E	N 63 08 W	736	Railroad.
			N 9 51 E	S 9 51 W	1,304	Thin.
2	38 58 13.40	76 14 55.78	S 8 41 W	N 8 41 E	1,932	Kirwan.
			S 64 34 E	N 64 34 W	960	Railroad.
			N 19 46 E	S 19 46 W	1,281	Thin.
	Thence from corner No. 2 along the mean low-water line of the shore to corner No. 3, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
3	38 58 42.52	76 14 47.62	S 12 20 W	N 12 20 E	1,005	Bridge.
			N 83 50 E	S 83 51 W	1,640	Muddy.
			N 44 21 E	S 44 21 W	312	Thin.
4	38 58 37.28	76 14 44.20	S 20 44 W	N 20 44 E	862	Bridge.
			N 77 07 E	S 77 07 W	1,581	Muddy.
			N 17 46 E	S 17 46 W	420	Thin.
	Thence from corner No. 4 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					

BLUNT.

(*Lower Chester River—Chart No. 30.*)

1	38 58 22.34	76 12 41.74	N 57 08 E	S 57 09 W	3,131	Bluebeard.
			N 6 25 W	S 6 26 E	4,484	Narrows Point.
			N 63 04 W	S 63 05 E	1,888	Muddy.
2	38 58 43.78	76 12 55.80	N 71 59 E	S 72 00 W	3,155	Bluebeard.
			N 2 01 W	S 2 01 E	3,735	Narrows Point.
			N 84 16 W	S 84 16 E	1,320	Muddy.
3	38 59 33.65	76 11 51.36	S 61 35 E	N 61 34 W	1,483	Bluebeard.
			N 3 00 W	S 3 00 E	2,334	Rain.
			N 41 42 W	S 41 43 E	2,747	Narrows Point.
4	38 59 31.02	76 11 24.58	N 13 33 W	S 13 33 E	2,489	Rain.
			N 49 48 W	S 49 49 E	3,315	Narrows Point.
			S 68 29 W	N 68 28 E	3,983	Muddy.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

POPLAR.

(*Lower Chester River—Chart No. 30.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 59 42.84	76 10 51.55	N 55 18 E	S 55 18 W	2,063	Blakeford.
			N 35 42 W	S 35 42 E	2,489	Rain.
			S 14 54 W	N 14 54 E	1,051	Bluebeard.
2	38 59 48.93	76 11 00.88	S 1 10 W	N 1 10 W	1,221	Bluebeard.
			N 63 28 E	S 63 29 W	2,170	Blakeford.
			N 33 36 W	S 33 37 E	2,180	Rain.
3	39 00 14.45	76 10 34.15	N 63 26 W	S 63 27 E	2,135	Rain.
			S 19 17 W	N 19 17 E	2,205	Bluebeard.
			N 85 00 E	S 85 01 W	1,242	Blakeford.
4	39 00 07.93	76 10 25.43	S 27 14 W	N 27 13 E	2,093	Bluebeard.
			N 71 58 E	S 71 59 W	1,060	Blakeford.
			N 1 34 W	S 1 34 E	2,846	Break.

CARPENTER ISLAND.

(*Middle Chester River—Chart No. 30.*)

1	39 00 33.76	76 10 47.00	S 70 59 E	N 70 59 W	1,667	Blakeford.
			N 13 56 E	S 13 56 W	2,033	Break.
			N 79 04 W	S 79 05 E	1,600	Rain.
2	39 01 12.05	76 11 10.98	N 51 13 W	S 51 14 E	2,489	Overton.
			S 43 37 W	N 43 37 E	1,365	Rain.
			S 50 16 E	N 50 15 W	2,869	Blakeford.
3	39 01 08.78	76 10 30.30	N 3 37 E	S 3 37 W	794	Break.
			S 66 26 W	N 66 25 E	2,194	Rain.
			S 33 23 E	N 33 23 W	2,065	Blakeford.
4	39 01 07.33	76 10 11.84	N 27 23 W	S 27 23 E	947	Break.
			S 71 39 W	N 71 38 E	2,630	Rain.
			S 21 13 E	N 21 13 W	1,797	Blakeford.
5	39 00 36.84	76 10 02.42	N 20 05 W	S 20 05 E	1,990	Break.
			N 85 50 W	S 85 51 E	2,752	Rain.
			S 31 54 E	N 31 54 W	762	Blakeford.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

HORSE RACE.

(*Middle Chester River—Chart No. 30.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 01 08.78	76 10 30.30	N 3 37 E	S 3 37 W	794	Break.
			S 66 26 W	N 66 25 E	2,194	Rain.
			S 33 23 E	N 33 23 W	2,065	Blakeford.
2	39 01 12.05	76 11 10.98	N 51 13 W	S 51 14 E	2,489	Overton.
			S 43 37 W	N 43 37 E	1,365	Rain.
			S 50 16 E	N 50 15 W	2,869	Blakeford.
3	39 02 00.00	76 11 41.20	S 63 58 E	N 63 58 W	2,131	Break.
			N 32 18 E	S 32 18 W	1,808	Fir.
			S 87 04 W	N 87 04 E	1,147	Overton.
4	39 02 17.46	76 11 06.57	N 3 22 E	S 3 22 W	942	Fir.
			S 72 32 W	N 72 33 E	2,155	Overton.
			S 33 23 E	N 33 22 W	1,825	Break.
5	39 01 31.43	76 10 30.47	N 73 14 W	S 73 15 E	3,139	Overton.
			S 50 43 W	N 50 43 E	2,592	Rain.
			S 24 38 E	N 24 38 W	2,736	Blakeford.

PINEY POINT (QUEEN ANNES COUNTY).

(*Middle Chester River—Chart No. 30.*)

1	39 02 00.00	76 11 41.20	S 63 58 E	N 63 58 W	2,131	Break.
			N 32 18 E	S 32 18 W	1,808	Fir.
			S 87 04 W	N 87 04 E	1,147	Overton.
	Thence along county boundary as delineated by Chart No. 30 to Corner No. 2.					
2	39 03 18.25	76 11 43.76	S 21 47 W	N 21 46 E	2,905	Overton.
			S 42 56 E	N 42 56 W	1,517	Fir.
			N 81 22 E	S 81 23 W	1,697	Gordon.
3	39 02 59.93	76 11 14.07	S 27 08 E	N 27 08 W	555	Fir.
			N 45 49 E	S 45 49 W	1,251	Gordon.
			N 65 12 W	S 65 12 E	2,234	Bay Bush Point.
4	39 02 41.86	76 11 25.76	S 32 45 E	N 32 44 W	2,790	Break.
			N 78 14 E	S 78 14 W	572	Fir.
			N 39 07 E	S 39 07 W	1,914	Gordon.
5	39 02 17.46	76 11 06.57	N 3 22 E	S 3 22 W	942	Fir.
			S 72 32 W	N 72 33 E	2,155	Overton.
			S 33 23 E	N 33 22 W	1,825	Break.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

HELLS DELIGHT.

(*Middle Chester River—Chart No. 30.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 02 59.93	76 11 14.07	S 27 08 E	N 27 08 W	555	Fir.
			N 45 49 E	S 45 49 W	1,251	Gordon.
			N 65 12 W	S 65 12 E	2,234	Bay Bush Point.
2	39 03 18.25	76 11 43.76	S 21 47 W	N 21 46 E	2,905	Overton.
			S 42 56 E	N 42 56 W	1,517	Fir.
			N 81 22 E	S 81 23 W	1,697	Gordon.
3	39 04 10.82	76 10 59.06	S 18 20 E	N 18 19 W	1,599	Gordon.
			S 76 40 E	N 76 39 W	2,359	Reeds.
			N 68 41 E	S 68 42 W	3,309	Holton Point.
4	39 04 02.56	76 10 33.54	S 7 44 W	N 7 44 E	1,251	Gordon.
			S 80 43 E	N 80 42 W	1,646	Reeds.
			N 58 26 E	S 58 27 W	2,830	Holton Point.

REEDS.

(*Reed's Creek—Chart No. 30.*)

1	39 03 30.37	76 09 42.66	N 19 17 E	S 19 17 W	868	Reeds.
			N 48 32 W	S 48 32 E	636	Bird.
			S 31 00 W	N 31 00 E	105	Grove.
2	39 03 36.60	76 09 49.85	S 24 16 E	N 24 16 W	328	Grove.
			N 37 58 E	S 37 58 W	773	Reeds.
			N 53 45 W	S 53 44 E	357	Bird.
3	39 03 38.95	76 09 34.61	N 8 04 E	S 8 04 W	536	Reeds.
			N 79 09 W	S 79 10 E	701	Bird.
			S 35 01 W	N 35 01 E	463	Grove.

ROBINS COVE.

(*Middle Chester River—Chart No. 30.*)

1	39 04 17.42	76 09 38.05	S 27 09 W	N 27 09 E	1,310	Bird.
			S 22 11 E	N 22 11 W	784	Reeds.
			N 44 12 E	S 44 12 W	1,367	Holton Point.
2	39 04 20.62	76 09 44.92	S 18 09 W	N 18 08 E	1,340	Bird.
			S 21 36 E	N 21 36 W	941	Reeds.
			N 52 26 E	S 52 27 W	1,429	Holton Point.
3	39 04 36.15	76 09 34.31	S 21 11 W	N 21 10 E	1,927	Bird.
			S 2 45 E	N 2 45 W	1,400	Reeds.
			N 67 50 E	S 67 51 W	923	Holton Point.
4	39 04 33.58	76 09 28.20	S 26 37 W	N 26 36 E	1,913	Bird.
			S 4 04 W	N 4 04 E	1,316	Reeds.
			N 57 56 E	S 57 56 W	819	Holton Point.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

OLD FIELD.

(*Middle Chester River—Chart No. 30.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 03 55.67	76 10 11.82	S 36 17 W	N 36 16 E	1,250	Gordon.
			S 88 11 E	N 88 11 W	1,054	Reeds.
			N 47 03 E	S 47 04 W	2,514	Holton Point.
2	39 04 02.56	76 10 33.54	S 7 44 W	N 7 44 E	1,251	Gordon.
			S 80 43 E	N 80 42 W	1,646	Reeds.
			N 58 26 E	S 58 27 W	2,830	Holton Point.
3	39 04 10.82	76 10 59.06	S 18 20 E	N 18 19 W	1,599	Gordon.
			S 76 40 E	N 76 39 W	2,359	Reeds.
			N 68 41 E	S 68 42 W	3,309	Holton Point.
4	39 05 00.50	76 10 15.60	S 27 27 E	N 27 26 W	2,501	Reeds.
			S 76 18 E	N 76 17 W	1,997	Holton Point.
			N 63 30 E	S 63 31 W	2,750	Spaniard Point 2, Upper.
5	39 05 32.73	76 09 29.24	S 24 49 E	N 24 48 W	1,719	Holton Point.
			S 69 30 E	N 69 30 W	1,407	Corsica.
			N 83 33 E	S 83 33 W	1,251	Spaniard Point 2, Upper.
6	39 05 23.33	76 09 16.60	S 17 23 E	N 17 23 W	1,302	Holton Point.
			S 79 54 E	N 79 53 W	1,002	Corsica.
			N 63 20 E	S 63 20 W	1,019	Spaniard Point 2, Upper.
7	39 05 08.76	76 09 33.12	S 47 36 E	N 47 36 W	1,114	Holton Point.
			N 77 28 E	S 77 29 W	1,456	Corsica.
			N 54 48 E	S 54 48 W	1,646	Spaniard Point 2, Upper.

HOLTON POINT.

(*Entrance Corsica River—Chart No. 30.*)

1	39 04 46.68	76 08 44.98	N 88 01 E	S 88 01 W	567	Earle.
			N 8 19 E	S 8 19 W	1,072	Corsica.
			S 89 05 W	N 89 05 E	442	Holton Point.
2	39 05 08.76	76 09 33.12	S 47 36 E	N 47 36 W	1,114	Holton Point.
			N 77 28 E	S 77 29 W	1,456	Corsica.
			N 54 48 E	S 54 48 W	1,646	Spaniard Point 2, Upper.
3	39 05 23.33	76 09 16.60	S 17 23 E	N 17 23 W	1,302	Holton Point.
			S 79 54 E	N 79 53 W	1,002	Corsica.
			N 63 20 E	S 63 20 W	1,019	Spaniard Point 2, Upper.
4	39 05 13.48	76 09 07.72	S 9 42 E	N 9 42 W	924	Holton Point.
			N 78 15 E	S 78 16 W	769	Corsica.
			N 40 30 E	S 40 30 W	1,043	Spaniard Point 2, Upper.
5	39 05 06.92	76 08 41.24	S 38 05 W	N 38 05 E	876	Holton Point.
			S 35 12 E	N 35 12 W	812	Earle.
			S 80 26 E	N 80 26 W	779	Swepson.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

TOWN POINT.

(*Corsica River—Chart No. 30.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 04 40.98	76 07 56.52	N 24 25 E	S 24 25 W	805	Engineer.
			N 28 39 W	S 28 39 E	850	Swepson.
			N 73 21 W	S 73 21 E	739	Earle.
2	39 04 56.98	76 08 20.33	S 71 59 W	N 71 59 E	1,146	Holton Point.
			S 14 03 W	N 14 03 E	338	Earle.
			S 47 23 E	N 47 23 W	1,118	Hydrographic.
3	39 04 46.68	76 08 44.98	N 88 01 E	S 88 01 W	567	Earle.
			N 8 19 E	S 8 19 W	1,072	Corsica.
			S 89 05 W	N 89 05 E	442	Holton Point.
4	39 05 06.92	76 08 41.24	S 38 05 W	N 38 05 E	876	Holton Point.
			S 35 12 E	N 35 12 W	812	Earle.
			S 80 26 E	N 80 26 W	779	Swepson.
5	39 04 56.57	76 07 59.97	N 55 15 W	S 55 15 E	385	Swepson.
			S 63 02 W	N 63 02 E	692	Earle.
			S 21 09 E	N 21 09 W	796	Hydrographic.

EMORY WHARF.

(*Corsica River—Chart No. 30.*)

1	39 04 40.98	76 07 56.52	N 24 25 E	S 24 25 W	805	Engineer.
			N 28 39 W	S 28 39 E	850	Swepson.
			N 73 21 W	S 73 21 E	739	Earle.
2	39 04 56.57	76 07 59.97	N 55 15 W	S 55 15 E	385	Swepson.
			S 63 02 W	N 63 02 E	692	Earle.
			S 21 09 E	N 21 09 W	796	Hydrographic.
3	39 04 49.41	76 07 31.24	N 36 29 W	S 36 29 E	558	Engineer.
			S 43 01 W	N 43 01 E	686	Hydrographic.
			S 23 45 E	N 23 45 W	657	Ruth.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

EARLE COVE.

(*Corsica River—Chart No. 30.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 04 29.18	76 08 04.65	N 66 14 E	S 66 14 W	448	Hydrographic.
			N 9 36 W	S 9 36 E	1,159	Swepson.
			N 28 44 W	S 28 45 E	1,882	Corsica.
2	39 04 33.48	76 08 09.74	N 86 14 E	S 86 15 W	545	Hydrographic.
			N 3 25 W	S 3 25 E	1,001	Swepson.
			N 27 04 W	S 27 05 E	1,694	Corsica.
3	39 04 37.95	76 08 01.72	N 29 21 E	S 29 21 W	958	Engineer.
			N 17 42 W	S 17 42 E	889	Swepson.
			N 61 12 W	S 61 12 E	652	Earle.
4	39 04 32.82	76 07 58.16	N 20 27 E	S 20 27 W	1,075	Engineer.
			N 19 38 W	S 19 38 E	1,084	Swepson.
			N 53 47 W	S 53 47 E	823	Earle.

Thence from corner No. 4 along the mean low water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide

SHIP POINT.

(*Corsica River—Chart No. 30.*)

1	39 04 47.45	76 07 10.09	S 66 58 W	N 66 57 E	1,112	Hydrographic.
			S 28 32 W	N 28 32 E	610	Ruth.
			N 89 25 E	S 89 25 W	662	Bath.
2	39 04 48.55	76 07 19.82	S 58 24 W	N 58 24 E	902	Hydrographic.
			S 3 33 W	N 3 33 E	573	Ruth.
			S 87 44 E	N 87 43 W	919	Bath.
3	39 04 52.90	76 07 19.08	S 51 50 W	N 51 49 E	1,002	Hydrographic.
			S 4 22 W	N 4 22 E	722	Ruth.
			S 78 29 E	N 78 28 W	918	Bath.
4	39 04 51.25	76 07 10.08	S 61 11 W	N 61 10 E	1,169	Hydrographic.
			S 23 43 W	N 23 43 E	725	Ruth.
			S 79 06 E	N 79 05 W	674	Bath.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

POSSUM POINT.

(*Corsica River—Chart No. 30.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 04 46.63	76 06 54.57	S 14 07 W	N 14 07 E	705	Melfield.
			N 83 38 E	S 83 38 W	256	Bath.
			N 32 46 W	S 32 46 E	232	Ship.
2	39 04 50.64	76 06 57.25	S 68 15 W	N 68 15 E	1,465	Hydrographic.
			S 44 21 W	N 44 21 E	900	Ruth.
			S 71 46 E	N 71 45 W	341	Bath.
3	39 04 57.82	76 06 44.53	S 65 09 W	N 65 09 E	1,869	Hydrographic.
			S 47 25 W	N 47 24 E	1,308	Ruth.
			S 1 38 W	S 1 38 E	348	Bath.
4	39 04 56.40	76 06 39.66	S 67 59 W	N 67 59 E	1,967	Hydrographic.
			S 52 30 W	N 52 29 E	1,376	Ruth.
			S 24 37 W	N 24 37 E	331	Bath.

SPANIARD POINT.

(*Middle Chester River—Chart No. 30.*)

1	39 05 23.33	76 09 16.60	S 17 23 E	N 17 23 W	1,302	Holton Point.
			S 79 54 E	N 79 53 W	1,002	Corsica.
			N 63 20 E	S 63 20 W	1,019	Spaniard Point 2, Upper.
2	39 05 32.73	76 09 29.24	S 24 49 E	N 24 48 W	1,719	Holton Point.
			S 69 30 E	N 69 30 W	1,407	Corsica.
			N 83 33 E	S 83 33 W	1,251	Spaniard Point 2, Upper.
3	39 05 53.20	76 09 05.65	S 30 33 E	N 30 34 W	1,374	Corsica.
			S 48 35 E	N 48 35 W	831	Spaniard Point 2, Upper.
			N 32 20 E	S 32 20 W	1,067	Brown.
4	39 06 05.75	76 08 16.82	S 67 57 E	N 67 56 W	1,554	Chester.
			N 62 55 E	S 62 56 W	1,988	Deep Point 2.
			N 56 06 W	S 56 07 E	857	Brown.
5	39 06 00.63	76 08 14.36	S 73 22 E	N 73 21 W	1,436	Chester.
			N 57 43 E	S 57 43 W	2,017	Deep Point 2.
			N 50 02 W	S 50 02 E	1,014	Brown.
6	39 05 46.26	76 08 49.00	S 30 27 E	N 30 27 W	366	Spaniard Point 2, Upper.
			N 73 03 E	S 73 04 W	1,025	Evans.
			N 6 41 E	S 6 41 W	1,144	Brown.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

EMORY HOLLOW.

(*Middle Chester River—Chart No. 30.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 05 56.60	76 08 04.60	S 76 11 E	N 76 11 W	1,153	Chester.
			N 50 03 E	S 50 04 W	1,890	Deep Point 2.
			N 52 42 W	S 52 43 E	1,299	Brown.
2	39 06 00.63	76 08 14.36	S 73 22 E	N 73 21 W	1,436	Chester.
			N 57 43 E	S 57 43 W	2,017	Deep Point 2.
			N 50 02 W	S 50 02 E	1,014	Brown.
3	39 06 05.75	76 08 16.82	S 67 57 E	N 67 56 W	1,554	Chester.
			N 62 55 E	S 62 56 W	1,988	Deep Point 2.
			N 56 06 W	S 56 07 E	857	Brown.
4	39 06 23.28	76 07 08.81	S 16 26 W	N 16 26 E	1,225	Chester.
			S 84 36 E	N 84 35 W	576	Corpse.
			N 3 04 W	S 3 04 E	314	Deep Point 2.
5	39 06 18.51	76 07 03.33	S 25 49 W	N 25 49 E	1,126	Chester.
			N 76 05 E	S 76 05 W	443	Corpse.
			N 18 43 W	S 18 43 E	502	Deep Point 2.
6	39 05 58.62	76 07 29.60	S 83 54 W	N 83 54 E	1,112	Evans.
			S 30 11 E	N 30 11 W	397	Chester.
			N 55 15 E	S 55 15 W	1,364	Corpse.

SHEEP (QUEEN ANNES COUNTY).

(*Middle Chester River—Chart No. 30.*)

1	39 06 18.51	76 07 03.33	S 25 49 W	N 25 49 E	1,126	Chester.
			N 76 05 E	S 76 05 W	443	Corpse.
			N 18 43 W	S 18 43 E	502	Deep Point 2.
2	39 06 23.28	76 07 08.81	S 16 26 W	N 16 26 E	1,225	Chester.
			S 84 36 E	N 84 36 W	576	Corpse.
			N 3 04 W	S 3 04 E	314	Deep Point 2.
3	39 06 34.74	76 06 47.60	S 2 09 E	N 2 09 W	441	Corpse.
			N 59 13 E	S 59 13 W	794	Indian.
			N 14 19 E	S 14 20 W	900	Thorn.
4	39 06 32.37	76 06 45.00	N 51 37 E	S 51 37 W	783	Indian.
			N 9 12 E	S 9 13 W	965	Thorn.
			N 89 20 W	S 89 21 E	643	Deep Point 2.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

MUMMYS COVE.

(*Middle Chester River—Chart No. 30.*)

Corner of bar	Latitude	Longitude	True bearing: Forward	True bearing: Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 06 47.25	76 06 28.65	S 65 15 W	N 65 14 E	1,180	Deep Point 2.
			N 31 29 W	S 31 29 E	527	Thorn.
			N 16 47 E	S 16 47 W	1,141	Shippen.
2	39 06 50.40	76 06 32.73	S 58 06 W	N 58 05 E	1,136	Deep Point 2.
			N 26 06 W	S 26 06 E	383	Thorn.
			N 23 54 E	S 23 54 W	1,077	Shippen.
3	39 07 04.97	76 06 16.27	N 79 53 E	S 79 54 W	538	Ashland.
			N 0 27 E	S 0 27 W	494	Shippen.
			S 76 09 W	N 76 09 E	619	Thorn.
4	39 06 59.70	76 06 10.52	N 54 17 E	S 54 17 W	466	Ashland.
			N 12 22 W	S 12 22 E	688	Shippen.
			N 87 44 W	S 87 45 E	752	Thorn.

HOLLYDAY (QUEEN ANNES COUNTY).

(*Middle Chester River—Chart No. 30.*)

1	39 07 39.14	76 05 20.98	S 26 23 W	N 26 23 E	322	Burns.
			N 81 18 E	S 81 18 W	548	Starkley.
			N 27 27 E	S 27 27 W	911	Jarrett.
2	39 07 45.52	76 05 27.55	S 3 23 E	N 3 23 W	504	Burns.
			S 79 31 E	N 79 31 W	726	Starkley.
			N 44 58 E	S 44 59 W	839	Jarrett.
3	39 07 53.80	76 05 00.86	N 89 29 E	S 89 30 W	1,051	Booker.
			N 19 07 W	S 19 07 E	333	Jarrett.
			S 84 25 W	N 84 25 E	1,159	Oyster.
4	39 07 50.40	76 05 00.81	N 83 16 E	S 83 16 W	1,058	Booker.
			N 14 25 W	S 14 25 E	442	Jarrett.
			N 89 54 W	S 89 54 E	1,155	Oyster.

BOOKER WHARF.

(*Middle Chester River—Chart No. 30.*)

1	39 08 08.80	76 04 14.09	N 14 56 W	S 14 57 E	949	Cake.
			N 53 36 W	S 53 36 E	517	Melton.
			S 19 39 W	N 19 39 E	527	Booker.
2	39 08 09.25	76 04 19.93	S 2 40 W	N 2 40 E	512	Booker.
			N 56 21 E	S 56 22 W	466	Journey.
			N 5 46 W	S 5 46 E	911	Cake.
3	39 08 16.10	76 04 20.35	S 1 00 W	N 1 00 E	743	Booker.
			N 86 37 E	S 86 37 W	399	Journey.
			N 6 50 W	S 6 50 E	677	Cake.
4	39 08 16.25	76 04 12.41	N 23 21 W	S 23 21 E	728	Cake.
			N 83 09 W	S 83 09 E	463	Melton.
			S 16 30 W	N 16 30 E	780	Booker.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

NORTHWEST (QUEEN ANNES COUNTY).

(Middle Chester River—Chart No. 30.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	39 08 30.13	76 04 28.43	S 53 39 E	N 53 39 W	759	Journey.
			N 33 40 E	S 33 40 W	238	Cake.
			N 75 40 W	S 75 40 E	948	Pomona.
2	39 08 49.92	76 04 53.37	S 59 11 E	N 59 10 W	916	Cake.
			N 66 46 E	S 66 46 W	636	Bill.
			N 39 52 W	S 39 52 E	538	Taste.
3	39 08 54.27	76 04 46.60	N 4 24 E	S 4 24 W	721	Make.
			N 63 01 W	S 63 01 E	586	Taste.
			S 37 17 W	N 37 17 E	728	Pomona.
4	39 08 33.26	76 04 27.72	N 82 09 W	S 82 09 E	946	Pomona.
			S 6 22 W	N 6 22 E	522	Melton.
			S 46 51 E	N 46 51 W	812	Journey.

BRICK HOUSE.

(Chesapeake Bay—Off Kent Island—Chart No. 31.)

1	38 55 40.93	76 22 25.00	N 43 59 E	S 44 00 W	1,379	Craney.
			N 5 42 W	S 5 43 E	10,718	Sandy Point Light.
			S 59 16 W	N 59 14 E	6,905	Thomas Point Shoal Light.
2	38 55 41.83	76 22 57.65	N 62 07 E	S 62 07 W	2,056	Craney.
			N 1 07 W	S 1 07 E	10,638	Sandy Point Light.
			S 54 57 W	N 54 55 E	6,200	Thomas Point Shoal Light.
3	38 56 45.73	76 22 47.84	S 52 34 E	N 52 33 W	1,963	Craney.
			N 46 10 E	S 46 11 W	4,691	Wash.
			N 3 08 W	S 3 08 E	8,492	Sandy Point Light.
4	38 57 54.10	76 21 53.66	S 2 10 E	N 2 10 W	3,502	Craney.
			N 64 17 E	S 64 18 W	2,172	Wash.
			N 17 01 W	S 17 02 E	6,458	Sandy Point Light.
5	38 57 38.73	76 21 24.70	S 11 57 W	N 11 57 E	3,047	Craney.
			N 39 17 E	S 39 17 W	1,887	Wash.
			N 21 37 W	S 21 38 E	7,199	Sandy Point Light.
6	38 56 05.58	76 22 28.00	N 81 12 E	S 81 12 W	1,049	Craney.
			N 5 44 W	S 5 44 E	9,883	Sandy Point Light.
			S 53 20 W	N 53 18 E	7,302	Thomas Point Shoal Light.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

GUM THICKET.

(*Chesapeake Bay—Off Kent Island—Chart No. 31.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 52 08.37	76 22 45.10	N 10 20 E	S 10 20 W	8,294	Craney.
			N 56 03 W	S 56 05 E	6,516	Thomas Point Shoal Light.
			S 15 46 W	N 15 46 E	4,459	Bloody Point Bar Light.
2	38 52 08.42	76 23 02.35	N 13 23 E	S 13 24 W	8,387	Craney.
			N 53 42 W	S 53 44 E	6,144	Thomas Point Shoal Light.
			S 10 00 W	N 10 00 E	4,370	Bloody Point Bar Light.
3	38 53 02.63	76 23 14.86	N 19 44 E	S 19 45 W	6,726	Craney.
			N 68 38 W	S 68 40 E	4,964	Thomas Point Shoal Light.
			S 3 59 W	N 3 59 E	6,136	Bloody Point Bar Light.
4	38 54 04.55	76 22 49.73	N 20 46 E	S 20 47 W	4,537	Craney.
			S 86 59 W	N 86 57 E	5,292	Thomas Point Shoal Light.
			S 7 23 W	N 7 23 E	8,278	Bloody Point Bar Light.
5	38 54 05.44	76 22 29.22	N 14 14 E	S 14 15 W	4,346	Craney.
			S 86 58 W	N 86 56 E	5,833	Thomas Point Shoal Light.
			S 11 12 W	N 11 11 E	8,399	Bloody Point Bar Light.

KENT POINT.

(*Chesapeake Bay—Off Bloody Point—Chart No. 31.*)

1	38 50 01.13	76 23 31.08	S 4 59 E	N 4 58 W	7,688	Valliant.
			S 37 30 E	N 37 28 W	8,834	Haddaway
			N 86 33 E	S 86 34 W	2,242	Tenk.
2	38 51 05.68	76 23 37.00	N 15 31 E	S 15 33 W	10,663	Craney.
			N 35 04 W	S 35 06 E	7,028	Thomas Point Shoal Light.
			S 4 07 E	N 4 07 W	2,183	Bloody Point Bar Light.
3	38 52 08.42	76 23 02.35	N 13 23 E	S 13 24 W	8,387	Craney.
			N 53 42 W	S 53 44 E	6,144	Thomas Point Shoal Light.
			S 10 00 W	N 10 00 E	4,370	Bloody Point Bar Light.
4	38 52 08.37	76 22 45.10	N 10 20 E	S 10 20 W	8,294	Craney.
			N 56 03 W	S 56 05 E	6,516	Thomas Point Shoal Light.
			S 15 46 W	N 15 46 E	4,459	Bloody Point Bar Light.
5	38 50 56.25	76 22 54.85	N 40 18 W	S 40 20 E	7,960	Thomas Point Shoal Light.
			S 27 11 W	N 27 11 E	2,090	Bloody Point Bar Light.
			S 1 44 W	N 1 44 E	9,522	Valliant.
6	38 50 16.48	76 22 40.82	N 36 40 W	S 36 42 E	9,241	Thomas Point Shoal Light.
			S 68 39 W	N 68 38 E	1,423	Bloody Point Bar Light.
			S 4 37 W	N 4 36 E	8,203	Valliant.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

LONG POINT (EASTERN BAY).

(Eastern Bay—Chart No. 31.)

Corner of bar.	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 51 18.40	76 19 34.33	N 82 32 W	S 82 32 E	1,123	Straight.
			S 39 22 E	N 39 20 W	4,250	Kemp Tower.
			S 77 01 E	N 76 59 W	5,453	Rich Neck Water Tank.
2	38 51 25.33	76 19 46.67	S 83 39 W	N 83 39 E	793	Straight.
			S 40 38 E	N 40 37 W	4,639	Kemp Tower.
			S 75 30 E	N 75 28 W	5,825	Rich Neck Water Tank.
3	38 51 53.78	76 19 32.60	N 36 50 W	S 36 51 E	1,071	Mouth.
			S 47 54 W	N 47 53 E	1,562	Straight.
			S 30 36 E	N 30·35 W	5,204	Kemp Tower.
4	38 52 45.28	76 19 47.60	S 15 40 W	N 15 40 E	913	Mouth.
			S 53 43 E	N 53 42 W	7,025	Rich Neck Water Tank.
			N 46 03 E	S 46 04 W	3,972	Turkey.
5	38 52 37.54	76 19 15.83	S 60 18 W	N 60 18 E	1,248	Mouth.
			S 51 06 E	N 51 04 W	6,201	Rich Neck Water Tank.
			N 33 50 E	S 33 49 W	3,633	Turkey.
6	38 52 16.19	76 19 29.57	N 32 32 E	S 32 33 W	4,433	Turkey.
			N 82 00 W	S 82 00 E	729	Mouth.
			S 34 29 W	N 34 29 E	2,187	Straight.
7	38 51 50.00	76 19 15.73	N 47 50 W	S 47 50 E	1,467	Mouth.
			S 60 10 W	N 60 09 E	1,848	Straight.
			S 26 52 E	N 26 51 W	4,879	Kemp Tower.

BODKIN SHOALS.

(Eastern Bay—Chart No. 31.)

1	38 51 58.65	76 18 27.46	N 73 37 W	S 73 38 E	2,460	Mouth.
			S 67 10 W	N 67 09 E	3,121	Straight.
			S 11 20 E	N 11 20 W	4,736	Kemp Tower.
2	38 52 19.47	76 18 56.95	S 89 40 W	N 89 40 E	1,582	Mouth.
			S 17 44 E	N 17 43 W	5,012	Kemp Tower.
			S 52 48 E	N 52 46 W	5,433	Rich Neck Water Tank.
3	38 53 06.03	76 18 54.67	S 41 19 E	N 41 17 W	6,463	Rich Neck Water Tank.
			N 67 39 E	S 67 40 W	3,505	Needle.
			N 35 27 E	S 35 28 W	2,525	Turkey.
4	38 53 14.22	76 18 24.42	S 48 05 E	N 48 04 W	5,764	Dixon.
			N 66 36 E	S 66 37 W	2,663	Needle.
			N 20 33 E	S 20 33 W	1,902	Turkey.
5	38 53 20.65	76 17 59.50	N 64 49 E	S 64 49 W	1,975	Needle.
			N 0 24 E	S 0 24 W	1,564	Turkey.
			S 56 13 W	N 56 12 E	3,726	Mouth.
6	38 53 36.26	76 16 59.40	N 60 04 W	S 60 05 E	3,823	Parsons Island Water Tank.
			N 32 57 E	S 32 57 W	374	Needle.
			N 56 35 W	S 56 36 E	1,884	Turkey.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

BODKIN SHOALS—Continued.

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
7	38 53 15.14	76 17 04.90	N 18 45 E	S 18 45 W	1,084	Needle.
			N 39 13 W	S 39 13 E	2,258	Turkey.
			S 67 26 W	N 67 24 E	4,912	Mouth.
8	38 52 32.28	76 16 44.32	N 31 40 W	S 31 40 E	3,753	Turkey.
			S 85 01 W	N 84 59 E	5,098	Mouth.
			S 12 35 E	N 12 34 W	3,809	Rich Neck Water Tank.
	Thence along county boundary as delineated on Chart No. 31 to corner No. 9.					
9	38 52 11.20	76 17 26.07	N 86 08 W	S 86 10 E	3,987	Mouth.
			S 7 44 W	N 7 44 E	5,114	Kemp Tower.
			S 57 54 E	N 57 55 W	3,246	Dixon.
	Thence along county boundary as delineated on Chart No. 31 to corner No. 10.					
10	38 51 59.14	76 17 42.52	N 79 11 W	S 79 12 E	3,609	Mouth.
			S 3 07 W	N 3 07 E	4,667	Kemp Tower.
			S 67 31 E	N 67 30 W	3,445	Dixon.

BRICK HOUSE HILL.

(*Eastern Bay—Chart No. 31.*)

1	38 52 49.80	76 19 18.59	S 44 26 W	N 44 25 E	1,445	Mouth.
			S 48 40 E	N 48 38 W	6,522	Rich Neck Water Tank.
			N 38 49 E	S 38 50 W	3,342	Turkey.
2	38 52 50.80	76 19 26.63	S 36 53 W	N 36 53 E	1,332	Mouth.
			S 49 39 E	N 49 37 W	6,705	Rich Neck Water Tank.
			N 41 54 E	S 41 55 W	3,451	Turkey.
3	38 53 11.10	76 19 16.92	S 31 06 W	N 31 06 E	2,044	Mouth.
			N 43 59 E	S 44 01 W	6,988	Rich Neck Water Tank.
			N 47 24 E	S 47 25 W	2,786	Turkey.
4	38 53 10.08	76 19 07.41	S 37 17 W	N 37 16 E	2,157	Mouth.
			S 42 41 E	N 42 39 W	6,700	Rich Neck Water Tank.
			N 43 09 E	S 43 10 W	2,632	Turkey.

BUNKER HILL.

(*Eastern Bay—Chart No. 31.*)

1	38 52 58.18	76 19 42.94	S 23 43 E	N 23 42 W	7,265	Kemp Tower.
			S 50 22 E	N 50 20 W	7,195	Rich Neck Water Tank.
			N 49 41 E	S 49 42 W	3,589	Turkey.
2	38 52 58.43	76 19 51.90	S 25 23 E	N 25 21 W	7,370	Kemp Tower.
			S 51 29 E	N 51 27 W	7,383	Rich Neck Water Tank.
			N 52 07 E	S 52 08 W	3,767	Turkey.
3	38 53 14.63	76 19 53.42	S 23 56 E	N 23 55 W	7,884	Kemp Tower.
			S 48 31 E	N 48 28 W	7,765	Rich Neck Water Tank.
			N 59 36 E	S 59 38 W	3,493	Turkey.
4	38 53 11.33	76 19 39.50	S 21 46 E	N 21 44 W	7,639	Kemp Tower.
			S 47 17 E	N 47 14 W	7,418	Rich Neck Water Tank.
			N 54 38 E	S 54 39 W	3,246	Turkey.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

TURKEY POINT.

(*Eastern Bay—Chart No. 31.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 53 20.65	76 17 59.50	N 64 49 E	S 64 49 W	1,975	Needle.
			N 0 24 E	S 0 24 W	1,564	Turkey.
			S 56 13 W	N 56 12 E	3,726	Mouth.
2	38 54 01.60	76 18 06.30	N 46 06 E	S 46 06 W	265	Turkey.
			N 51 24 W	S 51 24 E	2,098	Batts.
			N 79 29 W	S 79 29 E	3,388	Matta.
3	38 53 58.58	76 17 29.90	S 66 28 E	N 66 27 W	1,098	Needle.
			N 10 52 W	S 10 52 E	1,340	Cox.
			N 69 40 W	S 69 40 E	820	Turkey.
4	38 53 36.26	76 16 59.40	N 60 04 W	S 60 05 E	3,823	Parsons Island Water Tank.
			N 32 57 E	S 32 57 W	374	Needle.
			N 56 35 W	S 56 36 E	1,884	Turkey.

MIDDLE BLOCK.

(*Eastern Bay—Chart No. 31.*)

1	38 53 14.22	76 18 24.42	S 48 05 E	N 48 04 W	5,764	Dixon.
			N 66 36 E	S 66 37 W	2,663	Needle.
			N 20 33 E	S 20 33 W	1,902	Turkey.
2	38 53 51.90	76 18 32.00	N 0 14 E	S 0 14 W	3,243	Dell.
			N 30 28 W	S 30 28 E	1,898	Batts.
			N 70 24 W	S 70 25 E	2,817	Matta.
	Thence from corner No. 2 along the mean low-water line of the shore to corner No. 3, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
3	38 53 57.08	76 18 11.38	S 79 31 E	N 79 30 W	2,136	Needle.
			N 43 21 E	S 43 21 W	461	Turkey.
			N 45 51 W	S 45 52 E	2,099	Batts.
4	38 54 01.60	76 18 06.30	N 46 06 E	S 46 06 W	265	Turkey.
			N 51 24 W	S 51 24 E	2,098	Batts.
			N 79 29 W	S 79 29 E	3,388	Matta.
5	38 53 20.65	76 17 59.50	N 64 49 E	S 64 49 W	1,975	Needle.
			N 0 24 E	S 0 24 W	1,564	Turkey
			S 56 13 W	N 56 12 E	3,726	Mouth.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

WILD GROUND.

(*Eastern Bay—Chart No. 31.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 53 06.03	76 18 54.67	S 41 19 E	N 41 17 W	6,463	Rich Neck Water Tank.
			N 67 39 E	S 67 40 W	3,505	Needle.
			N 35 27 E	S 35 28 W	2,525	Turkey.
2	38 53 45.50	76 19 39.87	S 8 48 W	N 8 48 E	2,945	Mouth.
			S 41 26 E	N 41 24 W	8,250	Rich Neck Water Tank.
			N 74 43 E	S 74 43 W	2,754	Turkey.
3	38 54 05.60	76 19 43.00	N 88 59 E	S 89 00 W	2,738	Turkey.
			N 37 43 E	S 37 44 W	1,484	Batts.
			N 58 23 W	S 58 24 E	920	Matta.
4	38 53 51.90	76 18 32.00	N 0 14 E	S 0 14 W	3,243	Dell.
			N 30 28 W	S 30 28 E	1,898	Batts.
			N 70 24 W	S 70 25 E	2,817	Matta.
5	38 53 14.22	76 18 24.42	S 48 05 E	N 48 04 W	5,764	Dixon.
			N 66 36 E	S 66 37 W	2,663	Needle.
			N 20 33 E	S 20 33 W	1,902	Turkey.

PINE TREE.

(*Eastern Bay—Chart No. 31.*)

1	38 53 37.70	76 19 54.16	S 1 36 W	N 1 36 E	2,649	Mouth.
			N 86 50 E	S 86 51 W	4,816	Needle.
			N 71 56 E	S 71 57 W	3,190	Turkey.
2	38 53 37.90	76 20 02.86	S 3 21 E	N 3 21 W	2,659	Mouth.
			N 87 03 E	S 87 05 W	5,046	Needle.
			N 73 14 E	S 73 16 W	3,407	Turkey.
3	38 53 49.34	76 19 49.85	S 3 32 W	N 3 32 E	3,046	Mouth.
			S 88 28 E	N 88 26 W	4,697	Needle.
			N 78 27 E	S 78 28 W	2,979	Turkey.

GREEVES COVE.

(*Cox Creek—Chart No. 31.*)

1	38 54 28.94	76 20 21.80	S 78 54 E	N 78 52 W	3,833	Turkey.
			N 78 39 E	S 78 40 W	1,970	Batts.
			N 15 58 E	S 15 58 W	971	Then.
2	38 54 30.76	76 20 33.95	S 78 55 E	N 78 54 W	4,159	Turkey.
			N 81 45 E	S 81 46 W	2,275	Batts.
			N 48 36 E	S 48 36 W	1,738	Some.
3	38 54 34.87	76 20 36.40	S 77 15 E	N 77 14 W	4,250	Turkey.
			N 85 23 E	S 85 23 W	2,323	Batts.
			N 53 33 E	S 53 33 W	1,701	Some.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

GREEVES COVE—Continued.

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
4	38 54 39.70	76 20 25.23	S 74 03 E	N 74 01 W	4,006	Turkey.
			N 89 18 E	S 89 19 W	2,021	Batts.
			N 51 42 E	S 51 43 W	1,368	Some.
	Thence from corner No. 4 along the mean low-water line of the shore to corner No. 5, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
5	38 54 45.24	76 20 22.72	S 17 10 E	N 17 10 W	893	Matta.
			S 85 14 E	N 85 13 W	1,962	Batts.
			N 37 13 E	S 37 13 W	482	Then.
6	38 54 46.80	76 20 04.50	S 81 42 E	N 81 41 W	1,491	Batts.
			N 40 56 E	S 40 56 W	805	Some.
			N 29 40 W	S 29 40 E	382	Then.
7	38 54 33.60	76 20 12.72	S 75 44 E	N 75 43 W	3,633	Turkey.
			N 35 14 E	S 35 14 W	1,289	Some.
			N 2 04 E	S 2 04 W	778	Then.

MATTAPEX.

(*Cox Creek—Chart No. 31.*)

1	38 54 27.39	76 19 31.84	N 54 25 E	S 54 25 W	756	Batts.
			N 46 47 W	S 46 48 E	1,439	Then.
			S 76 50 W	N 76 50 E	1,106	Matta.
2	38 54 30.65	76 19 41.35	N 4 06 W	S 4 06 E	1,155	Some.
			N 42 22 W	S 42 22 E	1,185	Then.
			S 66 21 W	N 66 21 E	902	Matta.
3	38 54 33.60	76 20 12.72	S 75 44 E	N 75 43 W	3,633	Turkey.
			N 35 14 E	S 35 14 W	1,289	Some.
			N 2 04 E	S 2 04 W	778	Then.
4	38 54 46.80	76 20 04.50	S 81 42 E	N 81 41 W	1,491	Batts.
			N 40 56 E	S 40 56 W	805	Some.
			N 29 40 W	S 29 40 E	382	Then.
5	38 54 58.98	76 20 02.56	S 11 29 W	N 11 29 E	1,344	Matta.
			S 66 16 E	N 66 17 W	1,555	Batts.
			N 67 30 E	S 67 30 W	515	Some.
6	38 54 56.33	76 19 49.20	N 23 25 E	S 23 25 W	313	Some.
			N 89 03 W	S 89 03 E	592	Then.
			S 26 46 W	N 26 46 E	1,376	Matta.
7	38 54 58.90	76 19 39.52	N 33 13 W	S 33 13 E	239	Some.
			S 84 49 W	N 84 48 E	851	Then.
			S 33 38 W	N 33 38 E	1,579	Matta.
8	38 54 43.13	76 19 41.20	N 6 45 W	S 6 45 E	737	Some.
			N 60 27 W	S 60 27 E	923	Then.
			S 46 41 W	N 46 41 E	1,141	Matta.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

SHIPPING CREEK.

(*Cox Creek—Chart No. 31.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 54 05.15	76 19 58.28	N 88 50 E	S 88 50 W	3,142	Turkey.
			N 47 47 E	S 47 47 W	1,771	Batts.
			N 37 22 W	S 37 22 E	627	Matta.
2	38 54 20.61	76 20 08.82	S 82 23 E	N 82 21 W	3,449	Turkey.
			N 67 12 E	S 67 12 W	1,724	Batts.
			N 3 32 W	S 3 32 E	1,217	Then.
3	38 54 30.65	76 19 41.35	N 4 06 W	S 4 06 E	1,155	Some.
			N 42 22 W	S 42 22 E	1,185	Then.
			S 66 21 W	N 66 21 E	902	Matta.
4	38 54 27.39	76 19 31.84	N 54 25 E	S 54 25 W	756	Batts.
			N 46 47 W	S 46 48 E	1,439	Then.
			S 76 50 W	N 76 50 E	1,106	Matta.
5	38 54 05.60	76 19 43.00	N 88 59 E	S 89 00 W	2,738	Turkey.
			N 37 43 E	S 37 44 W	1,484	Batts.
			N 58 23 W	S 58 24 E	920	Matta.

BATTS NECK.

(*Cox Creek—Chart No. 31.*)

1	38 53 51.90	76 18 32.00	N 0 14 E	S 0 14 W	3,243	Dell.
			N 30 28 W	S 30 28 E	1,898	Batts.
			N 70 24 W	S 70 25 E	2,817	Matta.
2	38 54 05.60	76 19 43.00	N 88 59 E	S 89 00 W	2,738	Turkey.
			N 37 43 E	S 37 44 W	1,484	Batts.
			N 58 23 W	S 58 24 E	920	Matta.
3	38 54 27.39	76 19 31.84	N 54 25 E	S 54 25 W	756	Batts.
			N 46 47 W	S 46 48 E	1,439	Then.
			S 76 50 W	N 76 50 E	1,106	Matta.
4	38 54 34.66	76 18 59.50	N 22 15 E	S 22 16 W	1,947	Dell.
			N 50 46 W	S 50 46 E	307	Batts.
			S 75 33 W	N 75 32 E	1,993	Matta.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

RINGOLD MIDDLEGROUND.

(*Cox Creek—Chart No. 31.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 53 51.90	76 18 32.00	N 0 14 E	S 0 14 W	3,243	Dell.
			N 30 28 W	S 30 28 E	1,898	Batts.
			N 70 24 W	S 70 25 E	2,817	Matta.
2	38 54 34.66	76 18 59.50	N 22 15 E	S 22 16 W	1,947	Dell.
			N 50 46 W	S 50 46 E	307	Batts.
			S 75 33 W	N 75 32 E	1,993	Matta.
3	38 54 36.10	76 18 15.70	N 13 22 W	S 13 22 E	1,802	Dell.
			N 84 02 W	S 84 02 E	1,400	Batts.
			S 24 04 E	N 24 04 W	1,074	Turkey.
4	38 54 20.58	76 18 06.96	N 15 51 W	S 15 52 E	2,367	Dell.
			N 67 35 W	S 67 36 E	1,755	Batts.
			S 24 26 E	N 24 26 W	502	Turkey.
5	38 54 07.46	76 18 17.10	N 7 57 W	S 7 57 E	2,745	Dell.
			N 50 38 W	S 50 39 E	1,753	Batts.
			N 82 08 W	S 82 10 E	3,075	Matta.
6	38 54 01.60	76 18 06.30	N 46 06 E	S 46 06 W	265	Turkey.
			N 51 24 W	S 51 24 E	2,098	Batts.
			N 79 29 W	S 79 29 E	3,388	Matta.
7	38 53 57.08	76 18 11.38	S 79 31 E	N 79 30 W	2,136	Needle.
			N 43 21 E	S 43 21 W	461	Turkey.
			N 45 51 W	S 45 52 E	2,099	Batts.

Thence from corner No. 7 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

ERICKSON SANDS.

(*Cox Creek—Chart No. 31.*)

1	38 54 34.66	76 18 59.50	N 22 15 E	S 22 16 W	1,947	Dell.
			N 50 46 W	S 50 46 E	307	Batts.
			S 75 33 W	N 75 32 E	1,993	Matta.
2	38 54 57.62	76 18 39.60	N 11 43 E	S 11 43 W	1,050	Dell.
			N 46 53 W	S 46 53 E	945	Top.
			S 52 44 W	N 52 44 E	958	Batts.
3	38 54 54.40	76 18 16.10	N 19 40 W	S 19 40 E	1,206	Dell.
			N 60 02 W	S 60 03 E	1,510	Top.
			S 71 09 W	N 71 09 E	1,460	Batts.
4	38 54 36.10	76 18 15.70	N 13 22 W	S 13 22 E	1,802	Dell.
			N 84 02 W	S 84 02 E	1,400	Batts.
			S 24 04 E	N 24 04 W	1,074	Turkey.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

PEA HILL.

(*Cox Creek—Chart No. 31.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 54 54.40	76 18 16.10	N 19 40 W	S 19 40 E	1,206	Dell.
			N 60 02 W	S 60 03 E	1,510	Top.
			S 71 09 W	N 71 09 E	1,460	Batts.
2	38 54 57.62	76 18 39.60	N 11 43 E	S 11 43 W	1,050	Dell.
			N 46 53 W	S 46 53 E	945	Top.
			S 52 44 W	N 52 44 E	958	Batts.
3	38 55 11.26	76 18 45.30	N 32 37 E	S 32 37 W	674	Dell.
			N 71 00 W	S 71 00 E	571	Top.
			S 30 29 W	N 30 28 E	1,206	Batts.
4	38 55 26.11	76 18 44.46	N 78 56 E	S 78 56 W	348	Dell.
			N 18 20 W	S 18 20 E	1,263	Ware.
			S 60 43 W	N 60 43 E	644	Top.
5	38 55 13.30	76 18 16.58	N 38 15 W	S 38 16 E	635	Dell.
			N 84 50 W	S 84 51 E	1,301	Top.
			S 51 03 W	N 51 03 E	1,760	Batts.

STEVENS.

(*Cox Creek—Chart No. 31.*)

1	38 55 11.26	76 18 45.30	N 32 37 E	S 32 37 W	674	Dell.
			N 71 00 W	S 71 00 E	571	Top.
			S 30 29 W	N 30 28 E	1,206	Batts.
2	38 55 12.42	76 18 57.05	S 34 43 E	N 34 42 W	2,683	Turkey.
			N 51 51 E	S 51 51 W	855	Dell.
			N 2 16 W	S 2 16 E	1,661	Ware.
3	38 55 19.60	76 19 00.21	S 33 21 E	N 33 21 W	2,930	Turkey.
			N 69 16 E	S 69 16 W	808	Dell.
			N 0 43 E	S 0 43 W	1,418	Ware.
	Thence from corner No. 3 along the mean low-water line of the shore to corner No. 4, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
4	38 55 31.72	76 19 13.30	S 21 27 E	N 21 27 W	541	Top.
			S 83 39 E	N 83 39 W	1,108	Dell.
			N 53 45 E	S 53 45 W	1,259	Tom.
5	38 55 34.62	76 19 00.00	S 14 12 W	N 14 12 E	621	Top.
			S 73 39 E	N 73 39 W	783	Dell.
			N 45 48 E	S 45 48 W	927	Tom.
6	38 55 26.11	76 18 44.46	N 78 56 E	S 78 56 W	348	Dell.
			N 18 20 W	S 18 20 E	1,263	Ware.
			S 60 43 W	N 60 43 E	644	Top.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

JONES HOLE.

(Cox Creek—Chart No. 31.)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 55 26.11	76 18 44.46	N 78 56 E	S 78 56 W	348	Dell.
			N 18 20 W	S 18 20 E	1,263	Ware.
			S 60 43 W	N 60 43 E	644	Top.
2	38 55 34.62	76 19 00.00	S 14 12 W	N 14 12 E	621	Top.
			S 73 39 E	N 73 39 W	783	Dell.
			N 45 48 E	S 45 48 W	927	Tom.
3	38 55 41.86	76 18 56.58	S 54 53 E	N 54 53 W	607	Dell.
			N 55 00 E	S 55 00 W	702	Tom.
			N 6 40 W	S 6 40 E	671	Ware.
4	38 55 48.90	76 18 58.50	S 45 22 E	N 45 22 W	1,000	Dell.
			N 75 12 E	S 75 12 W	647	Tom.
			N 3 39 W	S 3 39 E	431	Ware.
5	38 56 01.78	76 18 48.73	S 21 46 E	N 21 46 W	1,223	Dell.
			S 53 50 E	N 53 50 W	456	Tom.
			N 42 26 E	S 42 27 W	1,073	Greek.
6	38 55 57.20	76 18 42.72	N 30 52 E	S 30 53 W	1,102	Greek.
			N 71 17 W	S 71 17 E	468	Ware.
			S 24 01 W	N 24 01 E	1,493	Top.

POND MARSH.

(Cox Creek—Chart No. 31.)

1	38 55 57.20	76 18 42.72	N 30 52 E	S 30 53 W	1,102	Greek.
			N 71 17 W	S 71 17 E	468	Ware.
			S 24 01 W	N 24 01 E	1,493	Top.
2	38 56 01.78	76 18 48.73	S 21 46 E	N 21 46 W	1,223	Dell.
			S 53 50 E	N 53 50 W	456	Tom.
			N 42 26 E	S 42 27 W	1,073	Greek.
3	38 56 06.34	76 18 51.02	S 45 23 E	N 45 23 W	601	Tom.
			N 50 52 E	S 50 53 W	1,012	Greek.
			N 4 58 E	S 4 58 W	1,179	Tuxon.
4	38 56 07.92	76 18 56.05	S 49 41 E	N 49 41 W	736	Tom.
			N 57 28 E	S 57 29 W	1,087	Greek.
			N 11 48 E	S 11 49 W	1,146	Tuxon.
5	38 56 26.53	76 19 11.72	S 88 09 E	N 88 09 W	1,331	Greek.
			N 4 07 W	S 4 07 E	419	Liver.
			N 78 52 W	S 78 52 E	270	Coffee.
6	38 56 31.40	76 18 56.38	S 80 30 W	N 80 30 E	679	Coffee.
			S 4 45 W	N 4 45 E	1,007	Ware.
			S 77 23 E	N 77 23 W	948	Greek.
7	38 56 24.24	76 18 26.81	N 8 54 E	S 8 54 W	669	Ville.
			N 43 10 W	S 43 11 E	783	Tuxon.
			S 48 32 W	N 48 32 E	1,150	Ware.
8	38 55 59.52	76 18 37.10	N 10 40 W	S 10 40 E	1,429	Tuxon.
			N 83 04 W	S 83 04 E	595	Ware.
			S 17 47 E	N 17 47 W	202	Tom.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

ISLAND COVE.

(*Cox Creek—Chart No. 31.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 56 26.53	76 19 11.72	S 88 09 E	N 88 09 W	1,331	Greek.
			N 4 07 W	S 4 07 E	419	Liver.
			N 78 52 W	S 78 52 E	270	Coffee.
2	38 56 32.46	76 19 35.90	S 68 19 E	N 68 18 W	400	Coffee.
			N 70 15 E	S 70 15 W	645	Liver.
			N 2 44 E	S 2 44 W	600	Samuel.
3	38 56 42.00	76 19 43.12	S 75 20 E	N 75 19 W	2,229	Greek.
			S 82 34 E	N 82 34 W	804	Liver.
			N 38 09 E	S 38 09 W	354	Samuel.
4	38 56 52.40	76 19 28.60	S 66 11 W	N 66 11 E	178	Samuel.
			S 12 19 E	N 12 19 W	840	Coffee.
			S 35 40 E	N 35 40 W	2,432	Tom.
5	38 56 38.40	76 19 13.24	N 54 51 W	S 54 51 E	694	Samuel.
			S 32 56 W	N 32 56 E	414	Coffee.
			S 33 59 E	N 33 59 W	1,813	Tom.
6	38 56 31.40	76 18 56.38	S 80 30 W	N 80 30 E	679	Coffee.
			S 4 45 W	N 4 45 E	1,007	Ware.
			S 77 23 E	N 77 23 W	948	Greek.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

ROOKS.

(*Cox Creek—Chart No. 31.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 56 24.24	76 18 26.81	N 8 54 E	S 8 54 W	669	Ville.
			N 43 10 W	S 43 11 E	783	Tuxon.
			S 48 32 W	N 48 32 E	1,150	Ware.
2	38 56 31.40	76 18 56.38	S 80 30 W	N 80 30 E	679	Coffee.
			S 4 45 W	N 4 45 E	1,007	Ware.
			S 77 23 E	N 77 23 W	948	Greek.
3	38 56 41.66	76 18 37.67	S 38 02 E	N 38 02 W	702	Greek.
			N 79 16 E	S 79 16 W	397	Ville.
			N 25 59 E	S 25 59 W	682	Timber.
4	38 56 48.16	76 18 48.02	S 77 37 E	N 77 37 W	678	Ville.
			N 55 23 E	S 55 23 W	694	Timber.
			N 1 39 W	S 1 39 E	338	Steve.
5	38 56 52.57	76 18 35.24	S 47 54 E	N 47 54 W	440	Ville.
			N 43 44 E	S 43 44 W	340	Timber.
			N 61 19 W	S 61 19 E	395	Steve.
6	38 56 43.85	76 18 22.88	N 9 32 W	S 9 32 E	547	Timber.
			S 81 57 W	N 81 57 E	645	Tuxon.
			S 3 57 E	N 3 57 W	628	Greek.
	Thence from corner No. 6 along the mean low water line of the shore to corner No. 7, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
7	38 56 28.50	76 18 11.22	N 44 21 W	S 44 21 E	1,401	Steve.
			N 65 42 W	S 65 42 E	1,038	Tuxon.
			S 67 31 W	N 67 30 E	285	Greek.
8	38 56 25.18	76 18 18.70	N 10 06 W	S 10 06 E	628	Ville.
			N 35 05 W	S 35 05 E	1,360	Steve.
			N 87 41 W	S 87 41 E	67	Greek.
9	38 56 27.30	76 18 20.64	N 6 02 W	S 6 02 E	561	Ville.
			N 56 11 W	S 56 11 E	841	Tuxon.
			S 49 50 W	N 49 49 E	1,341	Ware.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

THOMPSONS.

(Cox Creek—Chart No. 31.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 56 48.16	76 18 48.02	S 77 37 E	N 77 37 W	678	Ville.
			N 55 23 E	S 55 23 W	694	Timber.
			N 1 39 W	S 1 39 E	338	Steve.
2	38 57 02.40	76 18 46.74	S 80 55 E	N 80 55 W	545	Timber.
			N 8 15 E	S 8 15 W	503	Landing.
			N 51 16 W	S 51 16 E	495	Thompson.
3	38 57 03.10	76 18 54.30	S 81 32 E	N 81 32 W	745	Timber.
			N 29 45 E	S 29 45 W	547	Landing.
			N 33 14 W	S 33 14 E	343	Thompson.
4	38 57 13.24	76 19 00.40	S 31 56 E	N 31 56 W	598	Steve.
			N 72 56 E	S 72 57 W	452	Landing.
			N 10 02 E	S 10 02 W	632	Hope.
5	38 57 37.50	76 18 47.92	S 48 07 W	N 48 07 E	294	Hope.
			S 22 11 W	N 22 11 E	943	Thompson.
			S 0 32 W	N 0 32 E	1,325	Steve.
6	38 57 17.18	76 18 44.00	S 10 14 W	N 10 14 E	651	Steve.
			S 38 33 E	N 38 33 W	747	Timber.
			N 3 06 W	S 3 06 E	408	Knock.
	Thence from corner No. 6 along the mean low water line of the shore to corner No. 7, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
7	38 57 13.24	76 18 40.36	S 84 21 W	N 84 20 E	558	Thompson.
			S 22 37 W	N 22 37 E	550	Steve.
			S 39 19 E	N 39 18 W	584	Timber.
8	38 57 07.06	76 18 26.80	N 80 27 W	S 80 27 E	925	Thompson.
			S 62 15 W	N 62 15 E	642	Steve.
			S 31 33 W	N 31 32 E	1,025	Tuxon.
9	38 56 52.57	76 18 35.24	S 47 54 E	N 47 54 W	440	Ville.
			N 43 44 E	S 43 44 W	340	Timber.
			N 61 19 W	S 61 19 E	395	Steve.

JOHNSON ISLAND.

(Crab Alley Bay—Chart No. 31.)

1	38 55 24.75	76 16 46.80	S 41 07 W	N 41 07 E	2,111	Cox.
			S 75 54 E	N 75 54 W	1,696	Norman.
			N 34 40 E	S 34 40 W	1,662	Over.
2	38 55 30.85	76 16 58.97	S 30 44 E	N 30 44 W	2,090	Cox.
			S 72 32 E	N 72 31 W	2,061	Norman.
			N 20 49 W	S 20 49 E	1,182	Tull.
3	38 55 54.98	76 16 59.34	S 54 03 E	N 54 02 W	2,441	Norman.
			N 74 46 E	S 74 47 W	1,322	Over.
			N 54 38 W	S 54 38 E	503	Tull.
4	38 56 03.90	76 16 26.66	S 89 34 W	N 89 34 E	1,271	Tull.
			S 32 45 E	N 32 46 W	2,060	Norman.
			N 83 36 E	S 83 36 W	417	Over.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

CRAB ALLEY LUMPS.

(Crab Alley Bay—Charts Nos. 31 and 32.)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38. 55 00. 00	76 16 46. 54	S 72 54 E	N 72 53 W	3,112	Parsons Island Water
			N 75 34 E	S 75 35 W	1,692	Norman. [Tank.
			N 23 05 E	S 23 06 W	2,393	Over.
2	38 55 24. 75	76 16 46. 80	S 41 07 W	N 41 07 E	2,111	Cox.
			S 75 54 E	N 75 54 W	1,696	Norman.
			N 34 40 E	S 34 40 W	1,662	Over.
3	38 56 03. 90	76 16 26. 66	S 89 34 W	N 89 34 E	1,271	Tull.
			S 32 45 E	N 32 46 W	2,060	Norman.
			N 83 36 E	S 83 36 W	417	Over.
4	38 55 51. 92	76 16 08. 26	N 8 48 W	S 8 48 E	456	Over.
			N 77 21 W	S 77 21 E	1,799	Tull.
			S 25 22 E	N 25 21 W	1,471	Norman.
5	38 55 00. 00	76 16 00. 00	N 44 23 E	S 44 23 W	589	Norman.
			N 42 37 W	S 42 37 E	2,914	Tull.
			S 73 56 W	N 73 54 E	2,729	Cox.

CEDAR ISLAND.

(Crab Alley Bay—Chart No. 31.)

1	38 54 46. 17	76 17 31. 86	S 34 48 W	N 34 47 E	352	Cox. [Tank.
			S 83 52 E	N 83 50 W	4,193	Parsons Island Water
			N 38 38 E	S 38 39 W	3,415	Over.
2	38 55 00. 92	76 17 50. 90	S 31 34 E	N 31 33 W	2,982	Needle.
			N 83 19 E	S 83 21 W	3,357	Norman.
			N 50 30 E	S 50 31 W	3,413	Over.
3	38 55 43. 39	76 17 35. 13	S 2 58 W	N 2 58 E	2,222	Cox.
			S 70 22 E	N 70 21 W	3,099	Norman.
			N 71 35 E	S 71 36 W	2,338	Over.
4	38 55 39. 02	76 17 21. 60	S 12 49 W	N 12 49 E	2,125	Cox.
			S 70 46 E	N 70 45 W	2,714	Norman.
			N 11 58 E	S 11 59 W	848	Tull.
5	38 55 27. 30	76 17 24. 08	S 13 37 W	N 13 37 E	1,725	Cox.
			S 79 15 E	N 79 14 W	2,675	Norman.
			N 11 09 W	S 11 09 E	1,249	Tull.
6	38 55 30. 85	76 16 58. 97	S 30 44 E	N 30 44 W	2,090	Cox.
			S 72 32 E	N 72 31 W	2,061	Norman.
			N 20 49 W	S 20 49 E	1,182	Tull.
7	38 55 24. 75	76 16 46. 80	S 41 07 W	N 41 07 E	2,111	Cox.
			S 75 54 E	N 75 54 W	1,696	Norman.
			N 34 40 E	S 34 40 W	1,662	Over.
8	38 55 00. 00	76 16 46. 54	S 72 54 E	N 72 53 W	3,112	Parsons Island Water
			N 75 34 E	S 75 35 W	1,692	Norman. [Tank.
			N 23 05 E	S 23 06 W	2,393	Over.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

NORMANS FINE EYES.

(Eastern Bay—Charts Nos. 31 and 32.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 54 23.01	76 16 46.20	N 83 37 E	S 83 38 W	2,984	Parsons Island Water
			N 44 19 W	S 44 20 E	2,333	Norman. [Tank.
			N 70 42 W	S 70 43 E	1,487	Cox.
2	38 55 00.00	76 16 46.54	S 72 54 E	N 72 53 W	3,112	Parsons Island Water
			N 75 34 E	S 75 35 W	1,692	Norman. [Tank.
			N 23 05 E	S 23 06 W	2,393	Over.
3	38 55 00.00	76 16 00.00	N 44 23 E	S 44 23 W	589	Norman.
			N 42 37 W	S 42 37 E	2,914	Tull.
			S 73 56 W	N 73 54 E	2,729	Cox.
4	38 54 47.63	76 15 58.00	S 73 37 E	N 73 36 W	1,767	Parsons Island Water
			N 23 13 W	S 23 13 E	912	Norman. [Tank.
			S 82 47 W	N 82 46 E	2,696	Cox.
5	38 54 37.00	76 15 16.13	N 31 50 W	S 31 50 E	1,410	Norman.
			S 55 27 W	N 55 26 E	3,058	Needle.
			S 54 20 E	N 54 20 W	619	Parsons.
6	38 54 29.50	76 15 40.98	S 84 40 E	N 84 39 W	1,164	Parsons.
			N 3 30 W	S 3 30 E	1,453	Norman.
			N 85 00 W	S 85 01 E	3,134	Cox.
7	38 54 33.30	76 16 07.13	S 89 34 E	N 89 33 W	1,937	Parsons Island Water
			N 24 26 E	S 24 26 W	1,452	Norman. [Tank.
			N 86 35 W	S 86 36 E	2,438	Cox.

COX NECK.

(Eastern Bay—Chart No. 31.)

1	38 54 03.40	76 16 57.90	N 73 07 E	S 73 08 W	3,421	Parsons Island Water
			N 39 45 E	S 39 45 W	3,030	Norman. [Tank.
			N 43 33 W	S 43 33 E	1,591	Cox.
2	38 54 05.63	76 17 31.13	N 77 31 E	S 77 32 W	4,250	Parsons Island Water
			N 11 33 W	S 11 33 E	1,100	Cox. [Tank.
			S 86 20 W	N 86 20 E	738	Turkey.
3	38 54 40.83	76 17 37.30	S 86 27 E	N 86 25 W	4,320	Parsons Island Water
			N 70 15 E	S 70 16 W	3,162	Norman. [Tank.
			N 11 55 E	S 11 56 W	2,853	Tull.
4	38 54 46.17	76 17 31.86	S 34 48 W	N 34 47 E	352	Cox.
			S 83 52 E	N 83 50 W	4,193	Parsons Island Water
			N 38 38 E	S 38 39 W	3,415	Over. [Tank.
5	38 55 00.00	76 16 46.54	S 72 54 E	N 72 53 W	3,112	Parsons Island Water
			N 75 34 E	S 75 35 W	1,692	Norman. [Tank.
			N 23 05 E	S 23 06 W	2,393	Over.
6	38 54 23.01	76 16 46.20	N 83 37 E	S 83 38 W	2,984	Parsons Island Water
			N 44 19 W	S 44 20 E	2,333	Norman. [Tank.
			N 70 42 W	S 70 43 E	1,487	Cox.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

BODKIN ISLAND.

(*Eastern Bay—Charts Nos. 31 and 32.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 54 03.40	76 16 57.90	N 73 07 E	S 73 08 W	3,421	Parsons Island Water
			N 39 45 E	S 39 45 W	3,030	Norman. [Tank.
			N 43 33 W	S 43 33 E	1,591	Cox.
2	38 54 23.01	76 16 46.20	N 83 37 E	S 83 38 W	2,984	Parsons Island Water
			N 44 19 W	S 44 20 E	2,333	Norman. [Tank.
			N 70 42 W	S 70 43 E	1,487	Cox.
3	38 54 33.30	76 16 07.13	S 89 34 E	N 89 33 W	1,937	Parsons Island Water
			N 24 26 E	S 24 26 W	1,452	Norman. [Tank.
			N 86 35 W	S 86 36 E	2,438	Cox.
4	38 54 05.40	76 16 28.53	N 27 14 E	S 27 14 W	2,545	Norman.
			N 59 51 W	S 59 52 E	2,162	Cox.
			N 42 23 W	S 42 23 E	904	Needle.

PARSONS ISLAND.

(*Eastern Bay—Chart No. 32.*)

1	38 53 36.00	76 15 37.82	N 31 15 E	S 31 16 W	2,242	Parsons Island Water
			N 3 01 W	S 3 01 E	3,259	Norman. [Tank.
			N 57 03 W	S 57 04 E	3,820	Cox.
2	38 53 58.40	76 16 16.00	N 61 50 E	S 61 50 W	2,461	Parsons Island Water
			N 18 28 E	S 18 28 W	2,634	Norman. [Tank.
			N 59 00 W	S 59 01 E	2,567	Cox.
3	38 54 06.43	76 16 13.60	N 67 04 E	S 67 05 W	2,287	Parsons Island Water
			N 19 05 E	S 19 05 W	2,358	Norman. [Tank.
			N 65 05 W	S 65 06 E	2,496	Cox.
4	38 54 07.22	76 15 49.00	N 59 21 E	S 59 21 W	1,695	Parsons Island Water
			N 3 12 E	S 3 12 W	2,205	Norman. [Tank.
			N 70 37 W	S 70 38 E	3,086	Cox.
5	38 54 29.50	76 15 40.98	S 84 40 E	N 84 39 W	1,164	Parsons.
			N 3 30 W	S 3 30 E	1,453	Norman.
			N 85 00 W	S 85 01 E	3,134	Cox.
6	38 54 37.00	76 15 16.13	N 31 50 W	S 31 50 E	1,410	Norman.
			S 55 27 W	N 55 26 E	3,058	Needle.
			S 54 20 E	N 54 20 W	619	Parsons.
7	38 53 59.10	76 15 18.07	N 8 32 E	S 8 32 W	3,164	Alley.
			N 15 37 W	S 15 38 E	2,570	Norman.
			S 79 31 W	N 79 31 E	2,509	Needle.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

BUCKHORN.

(*Prospect Bay—Chart No. 32.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 57 44.82	76 14 50.80	S 46 27 E	N 46 27 W	1,098	Marshy.
			N 53 08 E	S 53 08 W	920	Railroad.
			N 7 45 W	S 7 45 E	973	Bridge.
2	38 57 54.01	76 15 09.06	S 50 07 E	N 50 07 W	1,663	Marshy.
			N 78 45 E	S 78 46 W	1,240	Railroad.
			N 28 08 E	S 28 08 W	741	Bridge.
3	38 58 01.44	76 15 05.70	S 42 03 E	N 42 03 W	1,774	Marshy.
			S 89 34 E	N 89 33 W	1,128	Railroad.
			N 32 55 E	S 32 56 W	480	Bridge.
4	38 57 58.14	76 14 56.20	S 37 53 E	N 37 53 W	1,528	Marshy.
			N 83 20 E	S 83 20 W	884	Railroad.
			N 1 14 E	S 1 14 W	514	Bridge.
	Thence from corner No. 4 along the mean low-water line of the shore to corner No. 5, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
5	38 58 00.05	76 14 48.18	S 29 47 E	N 29 47 W	1,463	Marshy.
			N 86 44 E	S 86 44 W	667	Railroad.
			N 23 58 W	S 23 58 E	492	Bridge.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

WELL COVE.

(*Prospect Bay—Chart No. 32.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 57 20.22	76 14 36.28	N 14 21 E	S 14 21 W	1,426	Railroad.
			S 81 45 W	N 81 45 E	814	Kirwan.
			S 18 44 W	N 18 43 E	2,189	Dull.
2	38 57 44.82	76 14 50.80	S 46 27 E	N 46 27 W	1,098	Marshy.
			N 53 08 E	S 53 08 W	920	Railroad.
			N 7 45 W	S 7 45 E	973	Bridge.
3	38 58 00.05	76 14 48.18	S 29 47 E	N 29 47 W	1,463	Marshy.
			N 86 44 E	S 86 44 W	667	Railroad.
			N 23 58 W	S 23 58 E	492	Bridge.
	Thence from corner No. 3 along the mean low water line of the shore to corner No. 4, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
4	38 58 04.54	76 14 52.38	S 30 30 E	N 30 30 W	1,650	Marshy.
			S 81 42 E	N 81 42 W	785	Railroad.
			N 12 52 E	S 12 52 W	1,543	Thin.
5	38 58 05.70	76 14 48.08	S 26 22 E	N 26 22 W	1,631	Marshy.
			S 77 04 E	N 77 04 W	681	Railroad.
			N 8 56 E	S 8 56 W	1,483	Thin.
6	38 57 55.78	76 14 36.16	S 20 02 E	N 20 01 W	1,199	Marshy.
			N 62 31 E	S 62 32 W	395	Railroad.
			N 41 00 W	S 41 00 E	787	Bridge.
7	38 57 45.77	76 14 30.41	N 35 38 W	S 35 38 E	1,146	Bridge.
			S 44 31 W	N 44 31 E	1,369	Kirwan.
			S 18 11 E	N 18 11 W	830	Marshy.
8	38 57 30.64	76 14 15.04	N 36 38 W	S 36 39 E	1,797	Bridge.
			S 71 04 W	N 71 03 E	1,442	Kirwan.
			S 27 30 W	N 27 30 E	2,734	Dull.
	Thence from corner No. 8 along the mean low water line of the shore to corner No. 9, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
9	38 57 22.38	76 14 20.57	N 2 38 W	S 2 38 E	1,310	Railroad.
			S 81 10 W	N 81 10 E	1,234	Kirwan.
			S 27 29 W	N 27 29 E	2,419	Dull.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

SANDY POINT.

(*Prospect Bay—Chart No. 32.*)

Corner of bar	Latitude	Longitude	True bearing: Forward	True bearing: Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 57 21.80	76 15 12.78	S 44 47 E	N 44 46 W	2,462	Bonnet.
			N 89 11 E	S 89 12 W	1,376	Marshy.
			N 44 42 E	S 44 43 W	1,869	Railroad.
	Thence from corner No. 1 along the mean low water line of the shore to corner No. 2, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
2	38 57 22.31	76 15 23.96	S 48 52 E	N 48 51 W	2,694	Bonnet.
			N 89 55 E	S 89 56 W	1,669	Marshy.
			N 50 52 E	S 50 53 W	2,077	Railroad.
3	38 57 27.81	76 15 30.82	S 48 34 E	N 48 33 W	2,947	Bonnet.
			S 84 20 E	N 84 19 W	1,859	Marshy.
			N 57 50 E	S 57 51 W	2,114	Railroad.
4	38 57 54.01	76 15 09.06	S 50 07 E	N 50 07 W	1,663	Marshy.
			N 78 45 E	S 78 46 W	1,240	Railroad.
			N 28 08 E	S 28 08 W.	741	Bridge.
5	38 57 44.82	76 14 50.80	S 46 27 E	N 46 27 W	1,098	Marshy.
			N 53 08 E	S 53 08 W	920	Railroad.
			N 7 45 W	S 7 45 E	973	Bridge.
6	38 57 37.63	76 15 03.60	S 65 35 E	N 65 35 W	1,245	Marshy.
			N 53 29 E	S 53 29 W	1,335	Railroad.
			N 9 41 E	S 9 41 W	1,224	Bridge.
	Thence from corner No. 6 along the mean low water line of the shore to corner No. 7, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
7	38 57 31.44	76 15 13.18	S 40 05 E	N 40 05 W	2,710	Bonnet.
			S 77 34 E	N 77 33 W	1,418	Marshy.
			N 52 52 E	S 52 53 W	1,662	Railroad.

HOG ISLAND.

(*Prospect Bay—Chart No. 32.*)

1	38 57 20.22	76 14 36.28	N 14 21 E	S 14 21 W	1,426	Railroad.
			S 81 45 W	N 81 45 E	814	Kirwan.
			S 18 44 W	N 18 43 E	2,189	Dull.
2	38 57 20.52	76 14 49.96	S 33 37 E	N 33 37 W	2,047	Bonnet.
			N 85 22 E	S 85 22 W	776	Marshy.
			N 27 29 E	S 27 29 W	1,545	Railroad.
3	38 57 37.63	76 15 03.60	S 65 35 E	N 65 35 W	1,245	Marshy.
			N 53 29 E	S 53 29 W	1,335	Railroad.
			N 9 41 E	S 9 41 W	1,224	Bridge.
4	38 57 44.82	76 14 50.80	S 46 27 E	N 46 27 W	1,098	Marshy.
			N 53 08 E	S 53 08 W	920	Railroad.
			N 7 45 W	S 7 45 E	973	Bridge.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

WALTER WHITE.

(*Prospect Bay—Chart No. 32.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 56 25.62	76 14 33.54	N 78 09 E	S 78 09 W	716	Bonnet.
			N 26 58 W	S 26 58 E	1,935	Kirwan.
			S 73 19 W	N 73 19 E	809	Dull.
2	38 56 37.34	76 15 04.08	S 46 20 W	N 46 20 E	949	New Barn Cupola.
			S 80 38 E	N 80 38 W	1,526	Bonnet.
			N 36 55 E	S 36 55 W	1,907	Marshy.
3	38 57 23.90	76 15 04.12	S 39 38 E	N 39 38 W	2,361	Bonnet.
			S 87 26 E	N 87 26 W	1,148	Marshy.
			N 40 50 E	S 40 50 W	1,661	Railroad.
4	38 57 20.52	76 14 49.96	S 33 37 E	N 33 37 W	2,047	Bonnet.
			N 85 22 E	S 85 22 W	776	Marshy.
			N 27 29 E	S 27 29 W	1,545	Railroad.
5	38 57 20.22	76 14 36.28	N 14 21 E	S 14 21 W	1,426	Railroad.
			S 81 45 W	N 81 45 E	814	Kirwan.
			S 18 44 W	N 18 43 E	2,189	Dull.
6	38 57 07.56	76 14 35.66	S 30 50 E	N 30 50 W	1,476	Bonnet.
			N 38 29 E	S 38 29 W	639	Marshy.
			N 69 19 W	S 69 19 E	878	Kirwan.

PROSPECT.

(*Prospect Bay—Chart No. 32.*)

1	38 56 25.62	76 14 33.54	N 78 09 E	S 78 09 W	716	Bonnet.
			N 26 58 W	S 26 58 E	1,935	Kirwan.
			S 73 19 W	N 73 19 E	809	Dull.
2	38 57 07.56	76 14 35.66	S 30 50 E	N 30 50 W	1,476	Bonnet.
			N 38 29 E	S 38 29 W	639	Marshy.
			N 69 19 W	S 69 19 E	878	Kirwan.
3	38 57 08.86	76 14 18.78	N 24 07 W	S 24 07 E	2,384	Bridge.
			N 78 07 W	S 78 08 E	1,294	Kirwan.
			S 34 33 W	N 34 32 E	2,053	Dull.
4	38 56 28.00	76 14 19.97	N 79 00 E	S 79 00 W	350	Bonnet.
			N 36 54 W	S 36 55 E	2,056	Kirwan.
			S 74 34 W	N 74 34 E	1,175	Dull.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

DOMINION.

(*Prospect Bay—Chart No. 32.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 55 54.10	76 14 30.30	N 26 58 E	S 26 58 W	1,357	Bonnet.
			N 46 01 W	S 46 01 E	1,195	Dull.
			S 46 30 W	N 46 30 E	1,088	Alley.
2	38 55 55.64	76 14 52.48	N 46 01 E	S 46 01 W	1,668	Bonnet.
			N 19 32 W	S 19 32 E	827	Dull.
			N 52 52 W	S 52 54 E	1,245	New Barn Cupola.
3	38 56 11.72	76 15 21.64	S 22 45 E	N 22 45 W	1,457	Alley.
			N 64 19 E	S 64 20 W	546	Dull.
			N 47 00 W	S 47 00 E	306	New Barn Cupola.
	Thence from corner No. 3 along the mean low-water line of the shore to corner No. 4, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
4	38 56 19.44	76 15 11.92	N 3 57 E	S 3 57 W	1,938	Kirwan.
			S 83 52 W	N 83 52 E	482	New Barn Cupola.
			S 10 41 E	N 10 40 W	1,633	Alley.
5	38 56 19.48	76 15 06.87	N 0 00 E	S 0 00 W	1,932	Kirwan.
			S 85 04 W	N 85 04 E	616	New Barn Cupola.
			S 6 12 E	N 6 11 W	1,614	Alley.
	Thence from corner No. 5 along the mean low-water line of the shore to corner No. 6, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
6	38 56 17.28	76 15 02.60	N 88 19 W	S 88 20 E	725	New Barn Cupola.
			S 2 18 E	N 2 17 W	1,532	Alley.
			N 73 43 E	S 73 44 W	1,528	Bonnet.
7	38 56 25.62	76 14 33.54	N 78 09 E	S 78 09 W	716	Bonnet.
			N 26 58 W	S 26 58 E	1,935	Kirwan.
			S 73 19 W	N 73 19 E	809	Dull.

BIBBY.

(*Prospect Bay—Chart No. 32.*)

1	38 55 40.54	76 15 05.90	S 26 59 E	N 26 59 W	327	Alley.
			N 3 26 E	S 3 26 W	1,290	Dull.
			N 26 52 W	S 26 52 E	1,413	New Barn Cupola.
2	38 55 48.28	76 15 27.44	S 52 20 E	N 52 20 W	904	Alley.
			N 32 07 E	S 32 07 W	1,213	Dull.
			N 4 04 W	S 4 04 E	1,002	New Barn Cupola.
3	38 56 11.72	76 15 21.64	S 22 45 E	N 22 45 W	1,457	Alley.
			N 64 19 E	S 64 20 W	546	Dull.
			N 47 00 W	S 47 00 E	306	New Barn Cupola.
4	38 55 55.64	76 14 52.48	N 46 01 E	S 46 01 W	1,668	Bonnet.
			N 19 32 W	S 19 32 E	827	Dull.
			N 52 52 W	S 52 54 E	1,245	New Barn Cupola.
5	38 55 43.66	76 15 05.48	N 44 38 E	S 44 38 W	2,195	Bonnet.
			N 3 12 E	S 3 12 W	1,184	Dull.
			N 29 21 W	S 29 21 E	1,328	New Barn Cupola.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

NORMANS MARSH.

(*Prospect Bay—Chart No. 32.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 55 09.76	76 14 32.20	N 62 15 E	S 62 14 W	3,139	Brian Reference Station.
			N 44 44 W	S 44 44 E	1,051	Alley. [Tank.
			S 24 26 W	N 24 26 E	1,367	Parsons Island Water
2	38 55 18.62	76 14 56.14	S 2 25 E	N 2 25 W	1,545	Parsons Island Water Tank.
			N 71 10 E	S 71 11 W	3,601	Brian Reference Station.
			N 13 42 W	S 13 42 E	458	Alley.
	Thence from corner No. 2 along the mean low-water line of the shore to corner No. 3, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
3	38 55 43.66	76 15 05.48	N 44 38 E	S 44 38 W	2,195	Bonnet.
			N 3 12 E	S 3 12 W	1,184	Dull.
			N 29 21 W	S 29 21 E	1,328	New Barn Cupola.
4	38 55 55.64	76 14 52.48	N 46 01 E	S 46 01 W	1,668	Bonnet.
			N 19 32 W	S 19 32 E	827	Dull.
			N 52 52 W	S 52 54 E	1,245	New Barn Cupola.
5	38 55 54.10	76 14 30.30	N 26 58 E	S 26 58 W	1,357	Bonnet.
			N 46 01 W	S 46 01 E	1,195	Dull.
			S 46 30 W	N 46 30 E	1,088	Alley.
6	38 55 37.10	76 14 36.84	N 26 07 W	S 26 07 E	1,564	Dull.
			S 74 06 W	N 74 06 E	642	Alley. [Tank.
			S 11 34 W	N 11 33 E	2,211	Parsons Island Water
7	38 55 16.34	76 14 18.94	N 7 16 E	S 7 16 W	2,503	Bonnet.
			N 64 17 W	S 64 17 E	1,208	Alley. [Tank.
			S 31 57 W	N 31 57 E	1,729	Parsons Island Water

BOUNDARIES OF NATURAL OYSTER BARS—continued.

HOOD.

(*Prospect Bay—Chart No. 32.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 55 00.74	76 14 05.56	N 49 38 E	S 49 38 W	2,725	Brian Reference Station.
			N 53 54 W	S 53 55 E	1,784	Alley.
			N 49 25 W	S 49 25 E	1,786	Parsons.
2	38 55 40.74	76 14 23.86	N 15 02 E	S 15 02 W	1,719	Bonnet.
			S 72 43 W	N 72 42 E	1,004	Alley. [Tank.
			S 18 56 W	N 18 56 E	2,420	Parsons Island Water
3	38 56 28.00	76 14 19.97	N 79 00 E	S 79 00 W	350	Bonnet.
			N 36 54 W	S 36 55 E	2,056	Kirwan.
			S 74 34 W	N 74 34 E	1,175	Dull.
4	38 56 24.54	76 14 05.44	S 62 54 E	N 62 53 W	2,328	Brian Reference Station.
			N 12 04 W	S 12 04 E	188	Bonnet.
			S 82 38 W	N 82 37 E	1,528	Dull.
5	38 56 31.94	76 13 50.00	S 81 34 W	N 81 34 E	451	Bonnet.
			S 42 22 W	N 42 21 E	2,746	Alley.
			S 22 38 W	N 22 37 E	4,590	Parsons.
6	38 56 26.46	76 13 37.50	N 81 18 W	S 81 18 E	784	Bonnet.
			S 49 50 W	N 49 49 E	2,853	Alley.
			S 27 21 W	N 27 20 E	4,563	Parsons.
7	38 56 24.74	76 13 28.26	N 80 09 W	S 80 10 E	1,033	Bonnet.
			S 53 40 W	N 53 40 E	3,008	Alley. [Tank.
			S 30 49 W	N 30 48 E	4,393	Parsons Island Water
8	38 55 25.69	76 13 46.50	N 83 51 W	S 83 52 E	1,954	Alley.
			S 42 52 W	N 42 52 E	2,732	Parsons.
			S 31 36 E	N 31 35 W	4,407	Green.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

CABIN CREEK.

(*Prospect Bay—Chart No. 32.*)

Corner of bar	Latitude	Longitude	True bearing: Forward	True bearing: Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 55 25.69	76 13 46.50	N 83 51 W	S 83 52 E	1,954	Alley.
			S 42 52 W	N 42 52 E	2,732	Parsons.
			S 31 36 E	N 31 35 W	4,407	Green.
2	38 56 24.74	76 13 28.26	N 80 09 W	S 80 10 E	1,033	Bonnet.
			S 53 40 W	N 53 40 E	3,008	Alley. [Tank.
			S 30 49 W	N 30 48 E	4,393	Parsons Island Water
3	38 56 48.84	76 13 17.88	S 63 47 W	N 63 47 E	1,440	Bonnet.
			S 46 06 W	N 46 05 E	3,742	Alley.
			S 23 34 E	N 23 34 W	2,052	Brian Reference Station.
	Thence from corner No. 3 along the mean low-water line of the shore to corner No. 4, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
4	38 56 37.44	76 13 03.46	S 81 26 W	N 81 26 E	1,691	Bonnet.
			S 54 19 W	N 54 17 E	3,788	Alley. [Tank.
			S 34 39 W	N 34 38 E	5,107	Parsons Island Water
5	38 56 34.10	76 13 05.89	S 85 04 W	N 85 03 E	1,614	Bonnet.
			S 55 09 W	N 55 08 E	3,671	Alley. [Tank.
			S 34 47 W	N 34 46 E	4,978	Parsons Island Water
6	38 56 30.96	76 12 58.60	S 88 41 E	N 88 41 W	1,800	Bonnet.
			S 58 10 W	N 58 09 E	3,775	Alley. [Tank.
			S 37 17 W	N 37 16 E	5,005	Parsons Island Water
7	38 56 42.20	76 12 53.22	S 78 01 W	N 78 01 E	1,985	Bonnet.
			S 54 41 W	N 54 40 E	4,101	Alley. [Tank.
			S 36 02 W	N 36 01 E	5,394	Parsons Island Water
	Thence from corner No. 7 along the mean low-water line of the shore to corner No. 8, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
8	38 56 34.64	76 12 50.76	S 85 32 W	N 85 31 E	2,012	Bonnet.
			S 58 12 W	N 58 10 E	4,015	Alley. [Tank.
			S 38 16 W	N 38 14 E	5,230	Parsons Island Water
9	38 56 21.86	76 12 46.22	N 82 39 W	S 82 40 E	2,143	Bonnet.
			S 64 30 W	N 64 28 E	3,912	Alley. [Tank.
			S 42 25 W	N 42 24 E	4,978	Parsons Island Water
	Thence from corner No. 9 along the mean low-water line of the shore to corner No. 10, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
10	38 56 11.36	76 12 53.74	N 71 57 W	S 71 58 E	2,028	Bonnet.
			S 68 13 W	N 68 12 E	3,589	Alley.
			S 42 31 W	N 42 30 E	4,806	Parsons.
11	38 55 35.86	76 13 02.36	S 15 37 E	N 15 38 W	4,254	Green.
			N 35 19 E	S 35 19 W	712	Brian Reference Station.
			N 42 59 W	S 42 59 E	2,495	Bonnet.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

SAW MILL CREEK.

(Prospect Bay—Chart No. 32.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 54 13.35	76 13 26.94	N 42 52 W	S 42 53 E	3,613	Alley.
			N 79 35 W	S 79 36 E	2,414	Parsons.
			S 53 46 E	N 53 46 W	2,223	Green.
2	38 54 41.45	76 13 50.46	N 47 13 W	S 47 14 E	2,504	Alley.
			S 73 46 W	N 73 45 E	1,827	Parsons.
			S 46 51 E	N 46 52 W	3,307	Green.
3	38 55 25.69	76 13 46.50	N 83 51 W	S 83 52 E	1,954	Alley.
			S 42 52 W	N 42 52 E	2,732	Parsons.
			S 31 36 E	N 31 35 W	4,407	Green.
4	38 55 35.86	76 13 02.36	S 15 37 E	N 15 38 W	4,254	Green.
			N 35 19 E	S 35 19 W	712	Brian Reference Station.
			N 42 59 W	S 42 59 E	2,495	Bonnet.
5	38 55 28.16	76 12 22.94	N 36 43 W	S 36 44 E	1,049	Brian Reference Station.
			N 88 15 W	S 88 16 E	4,146	Alley.
			S 62 49 W	N 62 47 E	4,565	Parsons.
6	38 54 32.72	76 12 41.92	N 2 41 W	S 2 41 E	2,713	Brian Reference Station.
			S 86 32 W	N 86 30 E	3,567	Parsons.
			S 17 09 E	N 17 08 W	2,059	Green.

PARSONS ISLAND NARROWS.

(Eastern Bay—Chart No. 32.)

1	38 54 41.66	76 15 05.88	S 47 18 E	N 47 18 W	437	Parsons Island Water
			N 5 00 E	S 5 00 W	1,701	Alley. [Tank.
			N 44 15 W	S 44 15 E	1,452	Norman.
2	38 55 19.95	76 15 06.88	N 23 25 E	S 23 25 W	439	Alley.
			S 75 43 W	N 75 43 E	1,018	Norman. [Tank.
			S 12 22 E	N 12 22 W	1,626	Parsons Island Water
3	38 55 19.18	76 15 02.16	N 6 40 E	S 6 40 W	432	Alley.
			S 78 32 W	N 78 32 E	1,134	Norman. [Tank.
			S 8 09 E	N 8 09 W	1,578	Parsons Island Water
	Thence from corner No. 3 along the mean low water line of the shore to corner No. 4, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
4	38 55 09.30	76 14 59.22	N 2 04 W	S 2 04 E	762	Alley.
			N 84 49 W	S 84 49 E	1,193	Norman. [Tank.
			S 6 48 E	N 6 48 W	1,238	Parsons Island Water
5	38 54 56.56	76 14 18.61	N 51 47 E	S 51 48 W	3,081	Brian Reference Station.
			N 42 39 W	S 42 39 E	1,620	Alley. [Tank.
			S 49 07 W	N 49 07 E	1,222	Parsons Island Water
6	38 54 44.00	76 14 34.13	N 50 32 E	S 50 33 W	3,666	Brian Reference Station.
			N 23 05 W	S 23 05 E	1,755	Alley. [Tank.
			S 53 51 W	N 53 51 E	638	Parsons Island Water
7	38 54 56.62	76 14 49.52	N 13 23 W	S 13 23 E	1,223	Alley.
			N 69 39 W	S 69 40 E	1,540	Norman. [Tank.
			S 7 45 W	N 7 45 E	809	Parsons Island Water

BOUNDARIES OF NATURAL OYSTER BARS—continued.

BALD EAGLE.

(*Eastern Bay—Chart No. 32.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 53 29.64	76 14 33.38	N 18 02 W	S 18 02 E	2,012	Parsons.
			N 81 38 W	S 81 39 E	3,684	Needle.
			S 22 26 W	N 22 25 E	4,728	Dixon.
2	38 54 00.00	76 14 09.88	S 73 32 E	N 73 31 W	3,050	Green.
			N 29 52 E	S 29 53 W	4,397	Brian Reference Station.
			N 54 23 W	S 54 24 E	1,528	Parsons.
3	38 54 27.78	76 14 10.76	N 31 06 W	S 31 06 E	2,525	Alley.
			S 87 48 W	N 87 47 E	1,220	Parsons.
			S 58 34 E	N 58 33 W	3,455	Green.
4	38 54 27.88	76 13 57.24	N 37 34 W	S 37 34 E	2,723	Alley.
			S 88 10 W	N 88 10 E	1,576	Parsons.
			S 55 09 E	N 55 08 W	3,158	Green.
5	38 54 04.37	76 13 42.15	S 65 14 E	N 65 13 W	2,416	Green.
			N 21 43 E	S 21 43 W	3,946	Brian Reference Station.
			N 69 23 W	S 69 24 E	2,108	Parsons.
6	38 53 30.70	76 13 57.36	N 22 04 W	S 22 05 E	4,410	Alley.
			N 83 47 W	S 83 49 E	4,622	Needle.
			S 32 00 W	N 31 59 E	5,196	Dixon.

MILL HILL.

(*Eastern Bay—Chart No. 32.*)

1	38 53 38.92	76 12 38.14	S 73 10 E	N 73 10 W	530	Green.
			N 2 52 W	S 2 52 E	4,530	Brian Reference Station.
			N 66 25 W	S 66 26 E	3,993	Parsons.
2	38 53 43.94	76 13 10.82	S 76 44 E	N 76 43 W	1,406	Green.
			N 8 17 E	S 8 18 W	4,401	Brian Reference Station.
			N 62 58 W	S 62 59 E	3,142	Parsons.
3	38 53 50.80	76 13 31.74	S 73 57 E	N 73 56 W	1,998	Green.
			N 16 02 E	S 16 03 W	4,290	Brian Reference Station.
			N 61 57 W	S 61 56 E	2,546	Parsons.
4	38 54 13.35	76 13 26.94	N 42 52 W	S 42 53 E	3,613	Alley.
			N 79 35 W	S 79 36 E	2,414	Parsons.
			S 53 46 E	N 53 46 W	2,223	Green.
5	38 54 32.72	76 12 41.92	N 2 41 W	S 2 41 E	2,713	Brian Reference Station.
			S 86 32 W	N 86 30 E	3,567	Parsons.
			S 17 09 E	N 17 08 W	2,059	Green.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

GREENWOOD CREEK.

(*Eastern Bay—Chart No. 32.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 53 11.96	76 12 10.20	N 16 53 W	S 16 53 E	790	Green.
			S 52 48 W	N 52 46 E	5,741	Pearson.
			S 4 05 W	N 4 05 E	4,121	Benn.
2	38 53 20.70	76 12 13.48	N 17 13 W	S 17 14 E	482	Green.
			S 49 59 W	N 49 58 E	5,858	Pearson.
			S 2 41 W	N 2 41 E	4,410	Benn.
3	38 53 22.08	76 12 09.06	N 32 02 W	S 32 02 E	489	Green.
			S 50 22 W	N 50 20 E	5,978	Pearson.
			S 4 09 W	N 4 09 E	4,464	Benn.
4	38 53 13.24	76 12 05.60	N 26 12 W	S 26 12 E	794	Green.
			S 53 11 W	N 53 09 E	5,865	Pearson.
			S 5 42 W	N 5 42 E	4,174	Benn.

PROSPECT POINT.

(*Eastern Bay—Chart No. 32.*)

1	38 52 49.46	76 12 22.68	N 3 46 E	S 3 46 W	1,518	Green.
			S 57 25 W	N 57 23 E	5,037	Pearson.
			S 0 36 E	N 0 36 W	3,353	Benn.
2	38 52 55.00	76 12 29.68	N 12 05 E	S 12 05 W	1,357	Green.
			S 54 28 W	N 54 26 E	4,989	Pearson.
			S 3 34 E	N 3 34 W	3,545	Benn.
3	38 53 06.78	76 12 15.16	N 6 03 W	S 6 03 E	936	Green.
			S 53 25 W	N 53 23 E	5,533	Pearson.
			S 2 22 W	N 2 22 E	3,940	Benn.
4	38 53 01.44	76 12 08.54	N 13 49 W	S 13 49 E	1,143	Green.
			S 55 59 W	N 55 57 E	5,571	Pearson.
			S 5 08 W	N 5 08 E	3,771	Benn.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

BUGBY.

(*Eastern Bay—Chart No. 32.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 52 07.64	76 14 09.20	S 26 44 E	N 26 43 W	4,554	Herr.
			S 55 41 E	N 55 40 W	3,444	Benn.
			N 44 50 E	S 44 51 W	4,123	Green.
2	38 52 36.14	76 14 11.60	S 31 14 W	N 31 14 E	2,647	Pearson.
			S 45 03 E	N 45 02 W	4,109	Benn.
			N 56 32 E	S 56 33 W	3,561	Green.
3	38 53 43.94	76 13 10.82	S 76 44 E	N 76 43 W	1,406	Green.
			N 8 17 E	S 8 18 W	4,401	Brian Reference Station.
			N 62 58 W	S 62 59 E	3,142	Parsons.
4	38 53 38.92	76 12 38.14	S 73 10 E	N 73 10 W	530	Green.
			N 2 52 W	S 2 52 E	4,530	Brian Reference Station.
			N 66 25 W	S 66 26 E	3,993	Parsons.
5	38 52 53.04	76 12 51.34	N 31 32 E	S 31 32 W	1,635	Green.
			S 50 55 W	N 50 54 E	4,494	Pearson.
			S 12 50 E	N 12 50 W	3,562	Benn.
6	38 52 31.38	76 12 21.20	N 1 38 E	S 1 38 W	2,125	Green.
			S 63 51 W	N 63 49 E	4,771	Pearson.
			S 0 04 W	N 0 04 E	2,742	Benn.
7	38 52 18.46	76 13 01.34	S 62 40 W	N 62 38 E	3,630	Pearson.
			S 24 35 E	N 24 35 W	2,536	Benn.
			N 23 36 E	S 23 37 W	2,793	Green.
8	38 52 08.96	76 13 31.06	S 61 07 W	N 61 06 E	2,788	Pearson.
			S 42 48 E	N 42 47 W	2,707	Benn.
			N 33 26 E	S 33 27 W	3,451	Green.

COFFEE.

(*Eastern Bay—Chart No. 32.*)

1	38 51 07.52	76 13 33.22	S 28 19 E	N 28 19 W	2,317	Herr.
			N 87 25 E	S 87 26 W	1,897	Benn.
			N 21 35 E	S 21 36 W	5,325	Green.
2	38 52 08.96	76 13 31.06	S 61 07 W	N 61 06 E	2,788	Pearson.
			S 42 48 E	N 42 47 W	2,707	Benn.
			N 33 26 E	S 33 27 W	3,451	Green.
3	38 52 18.46	76 13 01.34	S 62 40 W	N 62 38 E	3,630	Pearson.
			S 24 35 E	N 24 35 W	2,536	Benn.
			N 23 36 E	S 23 37 W	2,793	Green.
4	38 52 04.58	76 12 33.48	N 7 14 E	S 7 14 W	3,052	Green.
			S 73 09 W	N 73 07 E	4,137	Pearson.
			S 9 53 E	N 9 53 W	1,867	Benn.
5	38 51 43.28	76 12 45.24	N 10 30 E	S 10 30 W	3,810	Green.
			S 82 30 W	N 82 28 E	3,681	Pearson.
			S 29 22 E	N 29 22 W	1,286	Benn.
6	38 51 29.86	76 12 20.80	N 0 41 E	S 0 41 W	4,199	Green.
			S 89 37 W	N 89 35 E	4,293	Pearson.
			S 1 12 W	N 1 12 E	668	Benn.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

PERSIMMON TREE.

(*Miles River—Chart No. 32.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 50 39.24	76 12 20.10	S 35 12 W	N 35 11 E	3,530	Sara.
			S 75 46 E	N 75 45 W	734	Frank.
			N 71 09 E	S 71 09 W	778	James.
	Thence along county boundary as delineated on Chart No. 32 to corner No. 2.					
2	38 50 48.30	76 13 17.28	S 9 22 W	N 9 22 E	3,234	Sara.
			S 77 40 E	N 77 39 W	2,271	Frank.
			N 63 33 E	S 63 34 W	1,648	Benn.
3	38 51 07.52	76 13 33.22	S 28 19 E	N 28 19 W	2,317	Herr.
			N 87 25 E	S 87 26 W	1,897	Benn.
			N 21 35 E	S 21 36 W	5,325	Green.
4	38 51 29.86	76 12 20.80	N 0 41 E	S 0 41 W	4,199	Green.
			S 89 37 W	N 89 35 E	4,293	Pearson.
			S 1 12 W	N 1 12 E	668	Benn.
5	38 51 19.38	76 12 26.20	N 2 25 E	S 2 25 W	4,556	Green.
			N 85 32 W	S 85 33 E	4,164	Pearson.
			S 22 13 E	N 22 13 W	340	Benn.

SHIPPEN HOLE.

(*Wye River—Chart No. 32.*)

1	38 51 01.04	76 12 07.44	S 32 34 W	N 32 33 E	2,161	Herr.
			S 39 44 E	N 39 44 W	629	James.
			N 40 34 E	S 40 35 W	1,374	Bruffs.
2	38 51 05.78	76 12 14.70	S 26 07 W	N 26 07 E	2,207	Herr.
			S 42 41 E	N 42 41 W	875	James.
			N 50 50 E	S 50 51 W	1,399	Bruffs.
3	38 51 18.46	76 12 00.60	S 29 09 W	N 29 08 E	2,758	Herr.
			S 56 06 E	N 56 05 W	819	Law.
			N 57 24 E	S 57 24 W	846	Bruffs.
4	38 51 38.88	76 11 55.38	S 12 54 W	N 12 54 E	647	Hough.
			S 67 59 E	N 67 59 W	620	Bruffs.
			N 10 28 W	S 10 28 E	113	Won.
5	38 51 40.30	76 11 46.76	N 13 13 E	S 13 13 W	969	Nose.
			N 75 39 W	S 75 39 E	256	Won.
			S 28 43 W	N 28 43 E	773	Hough.
6	38 51 11.30	76 11 56.38	S 33 52 W	N 33 52 E	2,610	Herr.
			S 69 15 E	N 69 15 W	607	Law.
			N 40 47 E	S 40 48 W	921	Bruffs.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

MILLS.

(*Wye River—Chart No. 32.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 51 38.88	76 11 55.38	S 12 54 W	N 12 54 E	647	Hough.
			S 67 59 E	N 67 59 W	620	Bruffs.
			N 10 28 W	S 10 28 E	113	Won.
2	38 51 50.10	76 11 57.08	S 5 11 E	N 5 11 W	268	Won.
			S 45 25 E	N 45 25 W	871	Bruffs
			N 38 52 E	S 38 52 W	786	Nose.
3	38 52 03.76	76 11 36.74	N 47 08 E	S 47 08 W	553	Snout.
			N 15 43 W	S 15 43 E	157	Nose.
			S 35 08 W	N 35 08 E	890	Won.
4	38 52 12.66	76 11 33.18	N 2 06 E	S 2 06 W	604	Stop.
			S 42 38 W	N 42 38 E	201	Nose.
			S 7 58 E	N 7 58 W	1,332	Shaw.
5	38 51 51.30	76 11 24.38	S 4 30 W	N 4 30 E	601	Shaw.
			S 86 02 E	N 86 02 W	390	South.
			N 5 43 E	S 5 44 W	801	Snout.
6	38 51 40.30	76 11 46.76	N 13 13 E	S 13 13 W	969	Nose.
			N 75 39 W	S 75 39 E	256	Won.
			S 28 43 W	N 28 43 E	773	Hough.

HOBBS.

(*Wye River—Chart No. 32.*)

1	38 52 03.76	76 11 36.74	N 47 08 E	S 47 08 W	553	Snout.
			N 15 43 W	S 15 43 E	157	Nose.
			S 35 08 W	N 35 08 E	890	Won.
2	38 52 22.34	76 11 37.50	S 2 44 W	N 2 44 E	476	Nose.
			S 59 35 E	N 59 35 W	494	Snout.
			N 27 21 E	S 27 21 W	296	Stop.
3	38 52 28.04	76 11 29.30	S 25 22 E	N 25 22 W	489	Snout.
			N 76 31 E	S 76 31 W	522	Leaven.
			N 48 32 W	S 48 32 E	107	Stop.
4	38 52 55.02	76 11 42.08	S 12 01 E	N 12 01 W	406	Orb.
			N 73 07 E	S 73 07 W	2,615	Twixt.
			N 22 20 E	S 22 20 W	451	Piney.
5	38 52 51.05	76 11 33.48	N 75 02 E	S 75 02 W	425	Star.
			N 5 46 W	S 5 46 E	553	Piney.
			S 28 29 W	N 28 29 E	299	Orb.
6	38 52 28.58	76 11 22.98	N 77 58 W	S 77 58 E	253	Stop.
			S 5 20 W	N 5 20 E	463	Snout.
			N 73 07 E	S 73 07 W	357	Leaven.
7	38 52 12.66	76 11 33.18	N 2 06 E	S 2 06 W	604	Stop.
			S 42 38 W	N 42 38 E	201	Nose.
			S 7 58 E	N 7 58 W	1,332	Shaw.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

BAXTERS HOLLOW.

(Wye River—Chart No. 32.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 52 51.05	76 11 33.48	N 75 02 E	S 75 02 W	425	Star.
			N 5 46 W	S 5 46 E	553	Piney.
			S 28 29 W	N 28 29 E	299	Orb.
2	38 52 55.02	76 11 42.08	S 12 01 E	N 12 01 W	406	Orb.
			N 73 07 E	S 73 07 W	2,615	Twixt.
			N 22 20 E	S 22 20 W	451	Piney.
3	38 53 15.04	76 11 25.26	S 46 28 W	N 46 28 E	375	Piney.
			N 87 39 E	S 87 40 W	2,060	Twixt.
			N 67 42 E	S 67 42 W	378	Ferry.
4	38 53 18.30	76 11 10.28	N 64 25 E	S 64 25 W	1,214	Owe.
			N 52 52 W	S 52 52 E	56	Ferry.
			S 0 09 W	N 0 09 E	386	Darce.
5	38 53 14.48	76 11 08.88	S 8 23 W	N 8 23 E	260	Darce.
			S 86 45 E	N 86 44 W	1,270	Wide.
			N 26 37 W	S 26 37 E	182	Ferry.
6	38 53 09.78	76 11 24.96	S 73 49 W	N 73 49 E	292	Piney.
			N 82 43 E	S 82 44 W	2,068	Twixt.
			N 46 51 E	S 46 51 W	469	Ferry.

PACA.

(Wye River—Chart No. 32.)

1	38 53 13.58	76 10 38.88	S 74 41 W	N 74 41 E	860	Darce.
			S 84 59 E	N 84 59 W	479	Wide.
			N 21 21 E	S 21 21 W	734	Owe.
2	38 53 14.48	76 11 08.88	S 8 23 W	N 8 23 E	260	Darce.
			S 86 45 E	N 86 44 W	1,270	Wide.
			N 26 37 W	S 26 37 E	182	Ferry.
3	38 53 18.30	76 11 10.28	N 64 25 E	S 64 25 W	1,214	Owe.
			N 52 52 W	S 52 52 E	56	Ferry.
			S 0 09 W	N 0 09 E	386	Darce.
4	38 53 25.72	76 10 35.20	N 77 24 W	S 77 25 E	993	Ferry.
			S 40 07 E	N 40 06 W	589	Wide.
			N 31 50 E	S 31 50 W	323	Owe.
5	38 53 15.28	76 10 31.94	S 71 22 E	N 71 22 W	311	Wide.
			N 7 39 E	S 7 39 W	631	Owe.
			N 82 41 W	S 82 41 E	1,064	Ferry.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

BRYAN.

(*Wye River—Chart No. 32.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 53 15.28	76 10 31.94	S 71 22 E	N 71 22 W	311	Wide.
			N 7 39 E	S 7 39 W	631	Owe.
			N 82 41 W	S 82 41 E	1,064	Ferry.
2	38 53 25.72	76 10 35.20	N 77 24 W	S 77 25 E	993	Ferry.
			S 40 07 E	N 40 06 W	589	Wide.
			N 31 50 E	S 31 50 W	323	Owe.
3	38 53 28.30	76 10 22.88	S 5 52 E	N 5 52 W	541	Wide.
			N 47 53 E	S 47 53 W	565	Aller.
			N 39 38 W	S 39 38 E	243	Owe.
4	38 53 46.42	76 10 23.88	N 68 20 W	S 68 20 E	210	Hook.
			S 16 50 W	N 16 50 E	443	Owe.
			N 90 00 E	S 90 00 W	231	Chin.
5	38 53 38.26	76 10 14.86	N 78 16 E	S 78 16 W	212	Aller.
			N 1 52 W	S 1 52 E	276	Chin.
			S 67 51 W	N 67 51 E	396	Owe.
6	38 53 18.40	76 10 18.66	N 27 03 W	S 27 03 E	585	Owe.
			S 15 18 W	N 15 18 E	212	Wide.
			S 84 33 E	N 84 33 W	305	Twist.

WYE ISLAND.

(*Wye River—Chart No. 32.*)

1	38 52 57.94	76 10 38.40	N 43 43 E	S 43 44 W	671	Wide.
			N 11 52 E	S 11 52 W	1,237	Owe.
			N 70 22 W	S 70 22 E	893	Darce.
2	38 53 08.74	76 11 10.50	N 6 13 W	S 6 13 E	359	Ferry.
			N 79 55 E	S 79 56 W	1,696	Twist.
			S 4 14 E	N 4 14 W	63	Darce.
3	38 53 11.22	76 11 09.78	N 11 59 W	S 11 59 E	278	Ferry.
			N 82 39 E	S 82 39 W	1,664	Twist.
			S 5 30 W	N 5 30 E	149	Darce.
4	38 53 13.18	76 10 57.72	S 88 20 E	N 88 20 W	974	Wide.
			N 61 13 W	S 61 13 E	429	Ferry.
			S 57 14 W	N 57 14 E	395	Darce.
5	38 53 08.52	76 10 42.28	N 77 12 E	S 77 12 W	582	Wide.
			N 65 05 W	S 65 05 E	863	Ferry.
			S 85 37 W	N 85 37 E	741	Darce.
6	38 53 13.58	76 10 38.88	S 74 41 W	N 74 41 E	860	Darce.
			S 84 59 E	N 84 59 W	479	Wide.
			N 21 21 E	S 21 21 W	734	Owe.
7	38 53 15.28	76 10 31.94	S 71 22 E	N 71 22 W	311	Wide.
			N 7 39 E	S 7 39 W	631	Owe.
			N 82 41 W	S 82 41 E	1,064	Ferry.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

DRUM POINT.

(*Wye River—Chart No. 32.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 52 56.70	76 11 21.80	S 52 03 E	N 52 03 W	131	Star.
			N 43 29 E	S 43 29 W	207	Twixt.
			N 45 17 W	S 45 18 E	512	Piney.
2	38 52 56.66	76 11 29.36	S 29 04 W	N 29 04 E	517	Orb.
			S 75 19 E	N 75 19 W	313	Star.
			N 24 27 W	S 24 27 E	397	Piney.
3	38 53 09.32	76 11 21.10	N 35 34 E	S 35 34 W	413	Ferry.
			S 80 14 W	N 80 14 E	387	Piney.
			S 9 31 E	N 9 31 W	513	Star.
4	38 53 11.22	76 11 09.78	N 11 59 W	S 11 59 E	278	Ferry.
			N 82 39 E	S 82 39 W	1,664	Twist.
			S 5 30 W	N 5 30 E	149	Darce.
5	38 53 08.74	76 11 10.50	N 6 13 W	S 6 13 E	359	Ferry.
			N 79 55 E	S 79 56 W	1,696	Twist.
			S 4 14 E	N 4 14 W	63	Darce.

WYE RIVER MIDDLEGROUND.

(*Wye River—Chart No. 32.*)

1	38 52 28.26	76 11 18.82	N 1 37 E	S 1 37 W	879	Star.
			N 79 55 W	S 79 55 E	362	Stop.
			S 8 26 W	N 8 26 E	454	Snout.
2	38 52 38.54	76 11 26.36	S 29 06 W	N 29 06 E	325	Stop.
			S 61 38 E	N 61 37 W	489	Leaven.
			N 22 48 E	S 22 48 W	577	Star.
3	38 52 56.66	76 11 29.36	S 29 04 W	N 29 04 E	517	Orb.
			S 75 19 E	N 75 19 W	313	Star.
			N 24 27 W	S 24 27 E	397	Piney.
4	38 52 56.70	76 11 21.80	S 52 03 E	N 52 03 W	131	Star.
			N 43 29 E	S 43 29 W	207	Twixt.
			N 45 17 W	S 45 18 E	512	Piney.
5	38 52 44.36	76 11 14.38	N 15 22 W	S 15 22 E	348	Star.
			S 86 45 W	N 86 44 E	646	Orb.
			S 14 57 E	N 14 57 W	444	Leaven.
6	38 52 28.52	76 11 13.88	N 43 48 E	S 43 48 W	147	Leaven.
			N 83 36 W	S 83 36 E	490	Stop.
			S 23 15 W	N 23 16 E	499	Snout.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

HESS.

(*Wye River—Chart No. 32.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 51 41.26	76 11 04.68	N 84 54 W	S 84 54 E	728	Edward.
			N 22 44 W	S 22 44 E	338	South.
			S 65 16 W	N 65 16 E	624	Shaw.
2	38 51 44.72	76 11 17.94	N 48 21 E	S 48 21 W	293	South.
			N 34 09 W	S 34 09 E	959	Nose.
			N 29 53 W	S 29 53 E	435	Shaw.
3	38 52 15.60	76 11 30.14	S 41 12 W	N 41 12 E	329	Nose.
			S 84 26 E	N 84 26 W	233	Snout.
			N 6 45 W	S 6 45 E	493	Stop.
4	38 52 18.68	76 11 19.94	N 30 51 E	S 30 51 W	509	Leaven.
			N 40 14 W	S 40 14 E	506	Stop.
			S 16 23 W	N 16 23 E	131	Snout.
	Thence from corner No. 4 along the mean low-water line of the shore to corner No. 5, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
5	38 51 50.72	76 11 07.52	S 82 24 W	N 82 24 E	57	South.
			S 40 18 W	N 40 17 E	761	Shaw.
			S 72 22 E	N 72 22 W	840	Edward.

STONE WHARF.

(*Wye River—Chart No. 32.*)

1	38 51 50.80	76 10 58.08	N 42 27 E	S 42 27 W	731	Flat.
			S 88 06 W	N 88 06 E	305	South.
			S 51 48 W	N 51 48 E	943	Shaw.
2	38 51 53.74	76 11 02.82	S 58 41 W	N 58 41 E	210	South.
			S 62 13 E	N 62 13 W	764	Edward.
			N 54 34 E	S 54 34 W	759	Flat.
3	38 52 04.80	76 10 53.60	S 41 14 W	N 41 14 E	642	South.
			S 30 42 E	N 30 43 W	849	Edward.
			N 79 54 E	S 79 54 W	381	Flat.
4	38 52 04.54	76 10 45.78	S 53 01 W	N 53 01 E	787	South.
			S 17 28 E	N 17 28 W	756	Edward.
			N 65 53 E	S 65 53 W	185	Flat.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

RACE HORSE (QUEEN ANNES COUNTY).

(*Wye River—Chart No. 32.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 51 41.04	76 10 59.44	N 82 59 E	S 83 00 W	592	Edward.
			N 40 06 W	S 40 06 E	417	South.
			S 70 13 W	N 70 12 E	749	Shaw.
2	38 51 54.38	76 10 51.82	S 45 39 E	N 45 39 W	540	Edward.
			N 38 09 E	S 38 09 W	531	Flat.
			S 74 28 W	N 74 27 E	488	South.
3	38 51 58.16	76 10 41.72	N 11 59 E	S 11 59 W	297	Flat.
			S 70 39 W	N 70 39 E	780	South.
			S 13 20 E	N 13 20 W	519	Edward.
4	38 51 56.76	76 10 34.74	S 8 00 W	N 8 00 E	463	Edward.
			N 57 01 E	S 57 02 W	753	Albert.
			N 19 54 W	S 19 54 E	360	Flat.
	Thence along county boundary as delineated on Chart No. 32 to corner No. 1.					

WHETSTONE.

(*Wye River—Chart No. 32.*)

1	38 51 55.86	76 10 09.00	S 7 36 W	N 7 36 E	503	Lloyd.
			N 60 57 E	S 60 57 W	572	Cousin.
			N 5 59 W	S 5 59 E	443	Albert.
2	38 52 01.18	76 10 15.58	N 81 42 E	S 81 43 W	680	Cousin.
			N 25 59 E	S 25 59 W	291	Albert.
			N 73 15 W	S 73 15 E	655	Flat.
3	38 52 06.62	76 10 07.68	N 39 44 E	S 39 44 W	424	Baldwins.
			N 46 06 W	S 46 06 E	113	Albert.
			S 6 42 W	N 6 42 E	867	Lloyd.
4	38 52 17.26	76 10 09.48	N 28 08 E	S 28 08 W	396	Attila.
			S 74 46 W	N 74 46 E	30	Le Seur.
			S 6 48 W	N 6 48 E	282	Albert.
5	38 52 27.72	76 10 00.40	N 7 52 E	S 7 52 W	385	Tobine.
			S 85 38 W	N 85 38 E	52	Attila.
			S 36 37 W	N 36 37 E	449	Le Seur.
6	38 52 26.50	76 09 57.10	S 1 19 W	N 1 19 E	344	Baldwins.
			S 85 52 E	N 85 52 W	163	Sylvia.
			N 41 24 E	S 41 24 W	490	Gusta.
	Thence along county boundary as delineated on Chart No. 32 to corner No. 7.					
7	38 52 20.62	76 10 01.72	N 4 25 W	S 4 25 E	236	Attila.
			S 62 33 W	N 62 33 E	202	Le Seur.
			S 37 57 E	N 37 57 W	185	Baldwins.
	Thence along county boundary as delineated on Chart No. 32 to corner No. 8.					
8	38 52 10.38	76 10 01.42	S 54 43 E	N 54 43 W	367	Cousin.
			N 28 00 E	S 28 00 W	226	Baldwins.
			N 47 03 W	S 47 04 E	329	Le Seur.
	Thence along county boundary as delineated on Chart No. 32 to corner No. 1.					

BOUNDARIES OF NATURAL OYSTER BARS—continued.

MELVIN.

(*Wye River—Chart No. 32.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 52 26.50	76 09 57.10	S 1 19 W	N 1 19 E	344	Baldwins.
			S 85 52 E	N 85 52 W	163	Sylvia.
			N 41 24 E	S 41 24 W	490	Gusta.
2	38 52 27.72	76 10 00.40	N 7 52 E	S 7 52 W	385	Tobine.
			S 85 38 W	N 85 38 E	52	Attila.
			S 36 37 W	N 36 37 E	449	Le Seur.
3	38 52 39.03	76 09 58.40	S 15 18 W	N 15 18 E	400	Attila.
			S 81 14 E	N 81 14 W	362	Gusta.
			N 6 21 W	S 6 21 E	458	Sang.
4	38 52 59.52	76 09 50.37	S 48 08 W	N 48 08 E	352	Sang.
			S 28 33 E	N 28 33 W	533	Nodim.
			S 84 55 E	N 84 55 W	327	Go.
5	38 52 52.64	76 09 45.28	S 89 31 W	N 89 31 E	396	Sang.
			S 26 53 E	N 26 53 W	265	Nodim.
			N 43 23 E	S 43 23 W	280	Go.
	Thence along county boundary as delineated on Chart No. 32 to corner No. 1.					

DIVIDING.

(*Wye River—Chart No. 32.*)

1	38 52 52.18	76 09 12.82	N 81 40 E	S 81 40 W	382	Deck.
			N 5 04 E	S 5 04 W	226	Divide.
			N 71 47 W	S 71 47 E	699	Go.
	Thence along county boundary as delineated on Chart No. 32 to corner No. 2.					
2	38 52 52.48	76 09 30.12	N 65 37 E	S 65 37 W	523	Divide.
			N 44 54 W	S 44 54 E	294	Go.
			S 50 31 W	N 50 31 E	362	Nodim.
	Thence along county boundary as delineated on Chart No. 32 to corner No. 3.					
3	38 52 52.64	76 09 45.28	S 89 31 W	N 89 31 E	396	Sang.
			S 26 53 E	N 26 53 W	265	Nodim.
			N 43 23 E	S 43 23 W	280	Go.
4	38 52 59.52	76 09 50.37	S 48 08 W	N 48 08 E	352	Sang.
			S 28 33 E	N 28 33 W	533	Nodim.
			S 84 55 E	N 84 55 W	327	Go.
5	38 52 58.74	76 09 37.94	N 85 25 W	S 85 25 E	329	Turn.
			S 9 29 W	N 9 29 E	448	Nodim.
			N 89 36 E	S 89 36 W	682	Divide.
6	38 52 57.50	76 09 13.60	S 60 48 W	N 60 47 E	819	Nodim.
			S 19 34 E	N 19 34 W	460	Quarter.
			N 41 06 E	S 41 06 W	62	Divide.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

SHAWNS WHARF.

(*Wye River—Chart No. 32.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 52 52.18	76 09 12.82	N 81 40 E	S 81 40 W	382	Deck.
			N 5 04 E	S 5 04 W	226	Divide.
			N 71 47 W	S 71 47 E	699	Go.
2	38 52 57.50	76 09 13.60	S 60 48 W	N 60 47 E	819	Nodim.
			S 19 34 E	N 19 34 W	460	Quarter.
			N 41 06 E	S 41 06 W	62	Divide.
3	38 53 03.94	76 09 00.30	N 78 37 W	S 78 37 E	67	Princess.
			S 7 58 E	N 7 57 W	344	Deck.
			S 83 41 E	N 83 41 W	515	Philip.
4	38 53 01.38	76 08 39.78	N 44 04 W	S 44 04 E	42	Philip.
			S 49 04 W	N 49 04 E	441	Matter.
			S 43 34 E	N 43 34 W	645	Whale.
5	38 52 57.70	76 08 40.66	N 2 04 W	S 2 04 E	154	Philip.
			S 62 01 W	N 62 01 E	351	Matter.
			S 53 44 E	N 53 44 W	580	Whale.
6	38 52 59.30	76 08 55.38	N 88 09 W	S 88 09 E	440	Divide.
			S 23 55 W	N 23 55 E	202	Deck.
			N 75 22 E	S 75 23 W	296	Philip.
	Thence along county boundary as delineated on Chart No. 32 to corner No. 1.					

GRANARY POINT.

(*Wye River—Chart No. 32.*)

1	38 52 51.88	76 08 22.72	N 62 21 E	S 62 21 W	242	Morn.
			N 6 15 E	S 6 15 W	112	Granary.
			N 87 41 W	S 87 41 E	784	Matter.
2	38 52 53.94	76 08 22.64	N 81 44 E	S 81 45 W	643	Bush.
			N 78 35 E	S 78 35 W	217	Morn.
			S 2 02 W	N 2 02 E	217	Whale.
3	38 52 54.20	76 08 10.39	S 55 46 W	N 55 46 E	400	Whale.
			S 14 44 W	N 14 44 E	291	Chew.
			N 75 04 E	S 75 04 W	325	Bush.
4	38 52 51.88	76 08 10.46	N 44 07 W	S 44 07 E	155	Morn.
			N 70 25 W	S 70 26 E	330	Granary.
			N 88 21 W	S 88 22 E	1,106	Matter.

APPENDIXES.

APPENDIX A.—LAWS RELATING TO THE COOPERATION OF THE COAST AND GEODETIC SURVEY AND BUREAU OF FISHERIES WITH THE MARYLAND SHELL FISH COMMISSION.

The work of the Coast and Geodetic Survey and of the Bureau of Fisheries, in cooperation with the Maryland Shell Fish Commission, in surveying the oyster bars, establishing permanent landmarks at triangulation stations, and preparing for publication the necessary charts and technical and legal descriptions of boundaries and landmarks shown on these charts, has been executed in compliance with a request from the governor of the State of Maryland to the Secretary of Commerce and Labor, and by the authority of the following laws of the United States and Maryland:

[Act of Congress approved May 26, 1906.]

AN ACT To authorize the Secretary of Commerce and Labor to cooperate, through the Bureau of the Coast and Geodetic Survey and the Bureau of Fisheries, with the shellfish commissioners of the State of Maryland in making surveys of the natural oyster beds, bars, and rocks in the waters within the State of Maryland.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of Commerce and Labor be, and he is hereby, authorized and directed, upon the request of the governor of the State of Maryland, to designate such officers, experts, and employees of the Bureau of the Coast and Geodetic Survey and of the Bureau of Fisheries as may be necessary to cooperate with the Maryland State board of shellfish commissioners in making a survey of and locating the natural oyster beds, bars, and rocks in the waters within the State of Maryland; and the Secretary of Commerce and Labor is hereby authorized and directed to furnish to the officers, experts, and employees of said Bureaus so detailed as aforesaid such instruments, appliances, and steam launches as may be necessary to make the survey aforesaid; and the Secretary of Commerce and Labor is hereby authorized to have made in the Bureau of the Coast and Geodetic Survey all the plats necessary to show the results of the aforesaid survey and the locations of the said natural oyster beds, bars, and rocks in the waters within the State of Maryland, and to furnish to the board of shellfish commissioners of the State of Maryland such copies as may be necessary, and for this purpose to employ, in the District of Columbia and elsewhere, such technically qualified persons as may be necessary to carry out the purpose of this act.

SEC. 2. That the Secretary of Commerce and Labor is hereby further authorized to have erected or constructed by the officers so detailed as aforesaid, while making such survey, such structures as may be necessary to mark the points of triangulation, so that the same may be used for such future work of the Coast and Geodetic Survey as the said Bureau may be hereafter required to perform in prosecuting the Government coast survey of the navigable waters of the United States located within the State of Maryland.

* * * * * * *

SEC. 4. That this act shall take effect from the date of its passage.

[Act of Congress approved June 30, 1906.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and seven, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and seven, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including the expenditures authorized under Public Act Numbered One hundred and eighty-one, approved May twenty-sixth, nineteen hundred and six, and contingent expenses incident thereto, five thousand dollars, together with the unexpended balance under this appropriation for nineteen hundred and six and prior years which is hereby reappropriated and made available on this account for the fiscal year nineteen hundred and seven. * * *

[Act of Congress approved March 4, 1907.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and eight, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and eight, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, to be immediately available and to continue available until expended, twenty-five thousand dollars. * * *

[Act of Congress approved May 27, 1908.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and nine, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and nine, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, which expenses, including cost of plats and charts, shall not exceed fifteen thousand dollars in any one year, to be immediately available, twenty thousand dollars.

[Act of Congress approved March 4, 1909.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and ten, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and ten, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, which expenses, including cost of plats and charts, shall not exceed fifteen thousand dollars in any one year, to be immediately available, twenty thousand dollars.

[Act of Congress approved June 25, 1910.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and eleven, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and eleven, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, to be immediately available, fifteen thousand dollars.

[Act of Congress approved March 4, 1911.]

AN ACT Making appropriation for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and twelve, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and twelve, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, to be immediately available, thirteen thousand dollars.

[Act of the Legislature of Maryland approved April 2, 1906.]

AN ACT To establish and promote the industry of oyster culture in Maryland, to define and mark natural oyster beds, bars and rocks lying under the waters of this State, to prescribe penalties for the infringement of the provisions of this Act, and * * * .

SECTION 1. *Be it enacted by the General Assembly of Maryland,* That the following sections be, and they are hereby, added to article 72 of the Code of Public General Laws, title "Oysters." * * *

SEC. 86. The Board of Shell Fish Commissioners shall, as soon as practicable after the passage of this Act, cause to be made a true and accurate survey of the natural oyster beds, bars and rocks of this State, said survey to be made with reference to fixed and permanent objects on the shore, giving courses and distances, to be fully described and set out in a written report of said survey, as hereinafter required. A true and accurate delineation of the same shall be made on copies of published maps and charts of the United States coast and geodetic survey, which said copies shall be filed in the office of the said commissioners in the city of Annapolis, and the said commissioners shall further cause to be delineated upon copies of the published maps and charts of the United States coast and geodetic survey, of the largest scale, one copy for each of the counties of this State in the waters of which there are natural oyster beds, bars and rocks, all natural beds, bars and rocks lying within the waters of such county, which maps shall be filed in the offices of the clerks of the Circuit Court for the respective counties wherein the grounds so designated may lie. * * *

SEC. 87. The Governor of this State is hereby requested to ask the assistance of the United States coast and geodetic survey, and of the United States Fish Commissioner, to aid in the carrying out of the provisions of the preceding section.

* * * * * * * *

SEC. 89. As soon as practicable after the first day of April, 1906, the said commissioners shall organize, and shall at once proceed, with the assistance of such person or persons as may be detailed by the United States coast and geodetic survey and the United States Fish Commissioner, to aid them in their work, and of such persons as may be appointed under the preceding section, to have laid out, surveyed and designated on the said charts, the natural beds and bars, and shall cause to be marked and defined as accurately as practicable the limits and boundaries of the natural beds, bars, and rocks as established by said survey, and they shall take true and accurate notes of said survey in writing, and make an accurate report of said survey, setting forth such a description of landmarks as may be necessary to enable the said board, or their successors, to find and ascertain the boundary lines of the said natural oyster beds, bars and rocks, as shown by a delineation on the maps and charts provided in this Act; said report shall be completed and filed in the office of the board in the city of Annapolis within ninety days after the completion of the survey of any county. Said commissioners shall cause the same to be published in pamphlet form, and transmit copies of the same to the Clerks of the Circuit court for the respective counties, where the charts have been filed or directed to be filed as hereinafter provided; the said report to be filed by the clerks of the several counties in a book kept for that purpose. And the said survey and report, when filed, subject to the right of appeal hereafter provided for in this Act, shall be taken in all of the courts of this State as conclusive evidence of the boundaries and limits of all natural oyster beds, bars and rocks, lying within the waters of the county wherein such survey and report are filed, and shall be construed to mean in all of the said courts that there are no natural oyster beds, bars or rocks lying within the waters of the counties wherein such report and survey are filed other than those embraced in the survey authorized by this Act, and that all areas of the Chesa-

peake Bay and its tributaries within the State of Maryland, not shown in the survey to be natural oyster beds, bars or rocks shall be construed in all the courts of the State to be barren bottoms and open for disposal by the State for the purpose of private planting or propagation of oysters thereon under the provisions of this Act; provided, that the said survey and report shall not be construed as to affect in any manner the holdings by citizens of this State in any lot which may have been appropriated or taken up under the laws of this State prior to the approval of this Act.

The law of the State of Maryland, passed March 9, 1842, authorizing officers of the United States Coast and Geodetic Survey to enter upon the lands within the State limits for the purposes of the survey, is as follows:

AN ACT Concerning the Survey of the Coast of Maryland.

SECTION 1. *Be it enacted by the General Assembly of Maryland*, That it shall and may be lawful for any person or persons employed under and by virtue of an act of the Congress of the United States, * * * at any time hereafter to enter upon lands within this State for the purpose of exploring, surveying, triangulating, or leveling, or doing any other matter or thing which may be necessary to effect the objects of said act, and to erect any works, stations, buildings, or appendages requisite for that purpose, doing no unnecessary injury to private or other property.

SEC. 2.[1] *And be it enacted*, That in case the person or persons employed under the act of Congress aforesaid, can not agree with the owners or possessors of the land so entered upon and used as to the amount of damage done thereto by reason of the removal of fences, cutting of trees or injury to the crop or crops growing on the same, it shall and may be lawful for the said parties or either of them to apply to the chief justice for the time being or one of the associate judges of the judicial district in which such land may be situated, who shall thereupon appoint three disinterested and judicious freeholders, residents of the same judicial district, to proceed with as much despatch as possible to the examination of the matter in question, and the faithful assessment of the damages sustained by the owners or possessors aforesaid, and the said freeholders or a majority of them, having first taken and subscribed an oath or affirmation before the chief or associate justice aforesaid or other person duly authorized to administer the same, that they will well and truly examine and assess as aforesaid, and having given five days' notice to both parties of the time of their meeting, shall proceed to the spot, and then and there upon their own view and if required, upon the evidence of witnesses (to be by them sworn or affirmed and examined), shall assess the said damages, and shall afterward make report thereof and of their proceedings in writing under their hands and seals and file the same within five days thereafter in the office of the clerk of the county in which the land aforesaid is situated, subject to an appeal by either party to the county court of the said county within ten days after filing as aforesaid, and the said report so made as aforesaid if no appeal as aforesaid be taken, shall be held to be final and conclusive as between the said parties, and the amount so assessed and reported shall be paid to the said owners or possessors of the land so damaged within twenty days after the filing of said report, and the said chief or associate justice as aforesaid, shall have authority to tax and allow upon the filing of said report, such costs, fees and expenses to the said freeholders for the performance of their duty as he shall think equitable and just, which allowance shall be paid by the person or persons employed under the act of congress aforesaid, within the time last above limited, but if an appeal as aforesaid be taken, the case shall be set down for hearing at the first term of county court aforesaid, ensuing upon and after appeal, and it shall be lawful for either party immediately after the entry of such appeal, to take out summons for such witnesses as may be necessary to be examined upon the hearing aforesaid, and the said court shall have power in its discretion to award costs against which ever the final judgment shall be entered, and such appeal at the option of either party may and shall be heard before and the damage assessed by a jury of twelve men to be taken from the regular panel and elected as in other cases.

SEC. 3. *And be it enacted*, That if any person or persons shall wilfully injure or deface or remove any signal, monument or building or any appendage thereto, erected, used or constructed under and by virtue of the act of congress aforesaid, such person or persons so offending shall severally forfeit and pay the sum of fifty dollars with costs of suit to be sued for and recovered by any person who shall first

[1] Under the rulings of the Comptroller of the Treasury no damages can be collected except through the United States Court of Claims unless an agreement has been made in advance.

prosecute the same before any justice of the peace of the county where the person so offending may reside, and shall also be liable to pay the amount of damages thereby sustained, to be recovered with costs of suit in an action on the case, in the name and for the use of the United States of America, in any court of competent jurisdiction.

Appendix B.—THE HAMAN OYSTER CULTURE LAW.

[Extract from Second Report of Shell Fish Commission.]

OBJECT.

"The legislature in placing chapter 711 of the acts of 1906, better known as the Haman Oyster Culture Law, upon the statute books of Maryland, had a twofold object in view.

1. To *encourage* an industry in oyster culture upon the *barren bottoms* beneath the tidewaters of the State.

2. To *prevent* the leasing of *natural oyster bars* for the purpose of oyster culture."

SURVEY.

"To make the leasing of barren bottoms possible and the leasing of natural bars impossible, provision was made for a survey of the natural bars for the purpose of accurately locating and marking the same. It was definitely provided that no barren bottoms should be leased in any part of the State until the natural bars of that region had been surveyed, charted, and marked with buoys."

Definition of a Natural Oyster Bar.

NATURAL BAR NOT DEFINED.

"The Shell Fish Commission is instructed by section 90 of the Haman Oyster Culture Law to exercise its judgment liberally in favor of the natural bars when surveying, charting and buoying them, but other than this the Commission is uninstructed in this important matter. The responsibility of defining a natural bar is placed upon the Commission."

DIVERSITY OF OPINION.

"No definition of a natural oyster bar could be formulated by any man or body of men which would meet with the approval of all parties concerned. Oystermen, as a rule, hold that all bottoms where oysters grow or have grown naturally even though now practically barren of oysters should be considered natural bars. Other citizens of the State who are not directly interested in the oyster business, but interested in the oyster industry from the standpoint of revenue, hold, as a rule, that no bottoms should be excluded from leasing for oyster culture which, by methods known to oyster culturists, may be made to yield a greater number of oysters than they now produce."

"It should be evident to every one that neither of these definitions could be adopted by the Commission as a working basis for determining which of the grounds surveyed are natural oyster bars."

THE GOLDSBOROUGH DEFINITION.

The definition of a natural oyster bar which very nearly approaches a reasonable and satisfactory compromise between the views of the subject held by *oystermen* on one hand and by *oyster culturists* on the other is that contained in an opinion rendered by Judge Charles F. Goldsborough in the circuit court for Dorchester County in the July term, 1881, in the case of William T. Windsor and George R. Todd *v.* Job T. Moore.

This definition has been adopted by the Shell Fish Commission as the basis for the determination of the status of the various oyster bottoms surveyed, and is as follows:

What then is a natural bar or bed of oysters? It would be a palpable absurdity for the State to attempt to promote the propagation and growth of oysters and to encourage its citizens, by a grant of land, to engage in their culture, if the lands authorized to be taken up were only those upon which oysters do not and can not be made to grow. That there may be lands covered by water in the State where no oysters can be found, but where, if planted, they could be cultivated successfully, may be

possible, but, if so, I imagine that their extent must be too limited for them to be of much practical, general advantage for the purposes of such a law as the one under discussion; but there are thousands of acres of hard and shifting sands where oysters not only are not found, but where it would be folly to plant them, and these latter it can not be supposed that the State intended to offer to give away, for the simple reason that the State could not help knowing that nobody would have them.

Upon the other hand there are large and numerous tracts where oysters of natural growth may be found in moderate numbers, but not in quantities sufficient to make it profitable to catch them, and yet where oysters may be successfully planted and propagated. In my opinion these can not be called natural bars or beds of oysters, within the meaning of the act of assembly, and it is just such lands as these that the State meant to allow to be taken up under the provisions of the above-mentioned section of the act.

But there is still another class of lands where oysters grow naturally and in large quantities and to which the public are now and have been for many years in the habit of resorting with a view to earning a livelihood by catching this natural growth, and here, I think, is the true test of the whole question. Land can not be said to be a natural oyster bar or bed merely because oysters are scattered here and there upon it, and because if planted they will readily live and thrive there; but whenever the natural growth is so thick and abundant that the public resort to it for a livelihood, it is a natural oyster bar or bed and comes within the above-quoted restriction in the law, and can not be located or appropriated by any individual.

APPLICATION OF DEFINITION.

Before this definition may be of use in determining, accurately and scientifically, the status of an oyster ground, its central idea, "livelihood," must be expanded into accurately determinable factors, and these factors must be confined into a practical scheme of investigating the condition of the ground under consideration.

Stated briefly, a *livelihood* is represented by a *sum of money* obtained from the sale, at a fixed *price*, of a certain *quantity of oysters* gathered in a given *time* from an allotted *area* of ground.

Knowing the value of each of these factors it becomes possible to calculate the number of oysters an oyster ground must produce per square yard in order that oystermen may secure a livelihood by working upon it.

NOTE.—The factors into which the commission resolved the livelihood problem, the value assigned to each factor, and the scheme devised for practical use in examining and applying the definition to oyster bottoms are given in outline in their second report under the heading of the preceding extract, and in detail in their first report on pages 32 to 69.

APPENDIX C.—SUMMARY OF THE PARTICULAR SURVEYING OPERATIONS WHICH CONSTITUTE AN "OYSTER SURVEY" AS NOW BEING CARRIED ON IN MARYLAND.

Explanation.—A brief account of the particular surveying operations which constitute an "oyster survey" as now being carried on in Maryland will assist in the interpretation of records contained in the technical part of this report, and will be of interest to many who may not understand the necessity for the great amount of work being done or its complicated character.

To those familiar with methods used in surveying and charting the characteristic features of large bodies of water there is an evident necessity for the various operations performed, especially when it is known that the boundaries of the public oyster bars and of the private lots leased for purposes of oyster culture must be surveyed and charted with the greatest practical accuracy. To others it will be sufficient to state that the actual experience gained from oyster surveys in other States has proven that in order to avoid endless dissatisfaction and litigation it is necessary to accurately locate and permanently establish oyster boudaries as is now being done in Maryland.

Triangulation survey.—Such refinement of survey work as that demanded by the conditions of an oyster survey when carried on at considerable distances offshore can only be obtained by the use of a system of triangulation as a framework or foundation. Therefore, a triangulation survey including the permanent marking of the positions of landmarks with monuments and a record of the descriptions of their locations for future recovery is a necessary operation of a complete oyster survey.

Topographic survey.—The technical records which establish the relation between the offshore oyster boundaries and triangulation landmarks are sufficient for the requirements of engineers in making resurveys, but do not supply the needs of others who are interested in the same boundaries by reason of their occupation as oystermen concerned as to the public oyster bars, or oyster culturists concerned

as to the leasable bottoms. For these it is necessary to have the charts of the survey show the relation of the shore line and other topographic features to the boundaries of the public oyster bars and private oyster farms. Therefore, a topographic survey is a necessary operation of a complete oyster survey.

Hydrographic survey.—In the settlement of the important question of what is, or what is not, a natural oyster bar, and in the consideration of bottoms to be selected for purposes of oyster culture, information as to the depth of water and the character of the bottom is required. Therefore, a hydrographic survey is a necessary operation of a complete oyster survey.

Necessary foundation for an oyster survey.—Consequently, the necessary components of a satisfactory foundation for a complete oyster survey are the three classes of survey operations technically named triangulation, topography, and hydrography, or, stated in another way, the foundation of a practical oyster survey includes the surveying operations usually followed by the Coast and Geodetic Survey leading up to the preparation and publication of nautical charts.

Special surveys and investigations pertaining to oysters.—Having obtained this cartographic survey for a foundation, partly by new work and partly from records of previous work of the Government, the combined operations[1] making up an "oyster survey" are completed by superimposing on this foundation special surveys and investigations pertaining particularly to oysters or other shell fish.

The special surveys pertaining to oysters furnish information as to the location and outline of oyster-shell bottoms, and are carried on by the sounding boat party in addition to the usual hydrographic work.[2] This operation consists of the observation and record of the character of vibration of a wire and chain apparatus which is dragged over the bottom, the vibrations or lack of vibrations indicating the presence and quantity of shells or absence of shells.

The special oyster investigations [3] consist of the actual determination of the kind and quantity of oysters on the bottom, and such economic and biological studies of the supply of oyster food, density of water, character of the bottom, and other important matters as affects the growth of oysters. In this work the oyster investigation stations are located and buoyed by the hydrographic party while engaged in the survey of the oyster-shell limits. They are selected with the view of obtaining characteristic data which can be used for the interpretation of the recorded vibrations of the chain apparatus at all other points covered by the survey.

Preparation of results.—The actual surveying operations and oyster investigations having been completed for any one county, there still remains technical work of nearly equal magnitude to that described.[4] This work consists of the preparation of charts and technical descriptions of boundaries and landmarks for publication by the Government, the preparation of that part of the annual report of the commission covering the special oyster surveys and investigations, the making of the leasing charts and finished projections, and finally the filing of the oyster charts and records with the courts and the commission, thus opening a county for oyster culture.

Summary.—From the foregoing account it can be seen that a complete oyster survey properly conducted so as to answer all practical requirements of the present and permanency of results for the future is a very complicated affair, involving many lines of surveying and other scientific work, and requiring the professional services of experts in the various operations of cartographic surveying and shell-fish investigations.

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[1] See Appendix D of this publication for "Statistics of results of combined operations of the Government and State."

[2] See pp. 104 to 123 of First Annual Report of Maryland Shell Fish Commission.

[3] See pp. 30 to 67 and 129 to 199 of First Annual Report of Maryland Shell Fish Commission.

[4] No mention is made here of the large amount of administrative work of the commission, which is greatly complicated and increased by the effect of the oyster-survey operations on many thousands of people whose interests are more or less involved; or of the large amount of survey work involved in the survey and record of the boundaries of oyster lots leased from the State by private individuals for the purposes of oyster culture.

APPENDIX D.—STATISTICS OF RESULTS OF THE COMBINED OYSTER SURVEY OPERATIONS OF THE GOVERNMENT AND STATE.[1]

Operations	Anne Arundel County	Somerset County	Wicomico County	Worcester County	Calvert County	Charles County
Beginning of field work	June 29, 1906	May 2, 1907	Aug. 27, 1907	Nov. 8, 1907	May 2, 1908	Aug. 18, 1908
Filing of certified charts and reports	June 20, 1907	July 1, 1908	Dec. 1, 1908	Apr. 12, 1909	Dec. 14, 1909	Jan. 27, 1911
Natural oyster bars surveyed and delineated	91	37	15	28	41	15
Acres of natural oyster bars	33,666	27,566	2,038	1,655	12,303	2,285
Crab bottoms surveyed and delineated		54				
Acres of crab bottoms		32,108				
Clam beds surveyed and delineated		3				
Acres of clam beds		506				
Boundary buoys located and planted	362	154	53	108	149	51
Triangulation landmarks established	123	86	30	48	78	42
Miles of shore line covered by triangulation	110	125	46	95	95	32
Square miles of water covered by triangulation	220	375	44	110	157	20
Miles of examination of shell bottom with chain apparatus	369	296	58	63	250	38
Oyster-investigation stations occupied	440	679	162	147	667	113
Tide stations established	4	3	1	1	2	1
Number of soundings over shell bottoms	37,049	17,904	3,387	3,649	11,292	1,631
Square miles covered by soundings and chain apparatus	58	47	3	3	30	4
Projections prepared and plotted	9	13	2	5	8	3
Leasing charts prepared	13	12	2	3	5	2
Oyster charts published	4	6	2	3	5	1
Reports published	2	2	2	2	2	2
Progress maps published	2	2	2	2	2	2

Operations	St. Marys County	Baltimore County	Kent County	Queen Annes County	Total[2]
Beginning of field work	May 2, 1908	Apr. 14, 1909	Apr. 14, 1909	Apr. 14, 1909	
Filing of certified charts and reports	July 6, 1911	Aug. 10, 1911	Oct. 5, 1911	Nov. 29, 1911	
Natural oyster bars surveyed and delineated	124	3	64	98	516
Acres of natural oyster bars	25,778	3,010	12,809	24,721	[3] 145,831
Crab bottoms surveyed and delineated					54
Acres of crab bottoms					32,108
Clam beds surveyed and delineated					3
Acres of clam beds					506
Boundary buoys located and planted	513	13	211	340	1,954
Triangulation landmarks established	238	15	147	199	765
Miles of shore line covered by triangulation	160	12	110	240	840
Square miles of water covered by triangulation	180	50	130	500	1,472
Miles of examination of shell bottom with chain apparatus	400	33	164	288	1,959
Oyster-investigation stations occupied	1,472	64	1,151	1,949	6,844
Tide stations established	7	1	3	3	25
Number of soundings over shell bottoms	19,334	1,080	8,123	13,880	117,339
Square miles covered by soundings and chain apparatus	57	6	21	47	276
Projections prepared and plotted	15	4	10	12	58
Leasing charts prepared	10	1	4	11	62
Oyster charts published	8	1	3	4	32
Reports published	2	2	2	2	13
Progress maps published	2	1	1	1	12

[1] These statistics do not include the large amount of triangulation, topography, and hydrography resulting from previous work of the Coast and Geodetic Survey, which was utilized in the preparation of the published oyster charts and records. Work in Talbot and Dorchester counties has been finished, but final statistics of results will not be published until these counties are opened for oyster culture.

[2] Less quantities covered by statistics of more than 1 county.

[3] Total area of natural oyster bars of Connecticut is 5,770 acres.

THE NORRIS PETERS CO., WASHINGTON, D. C.

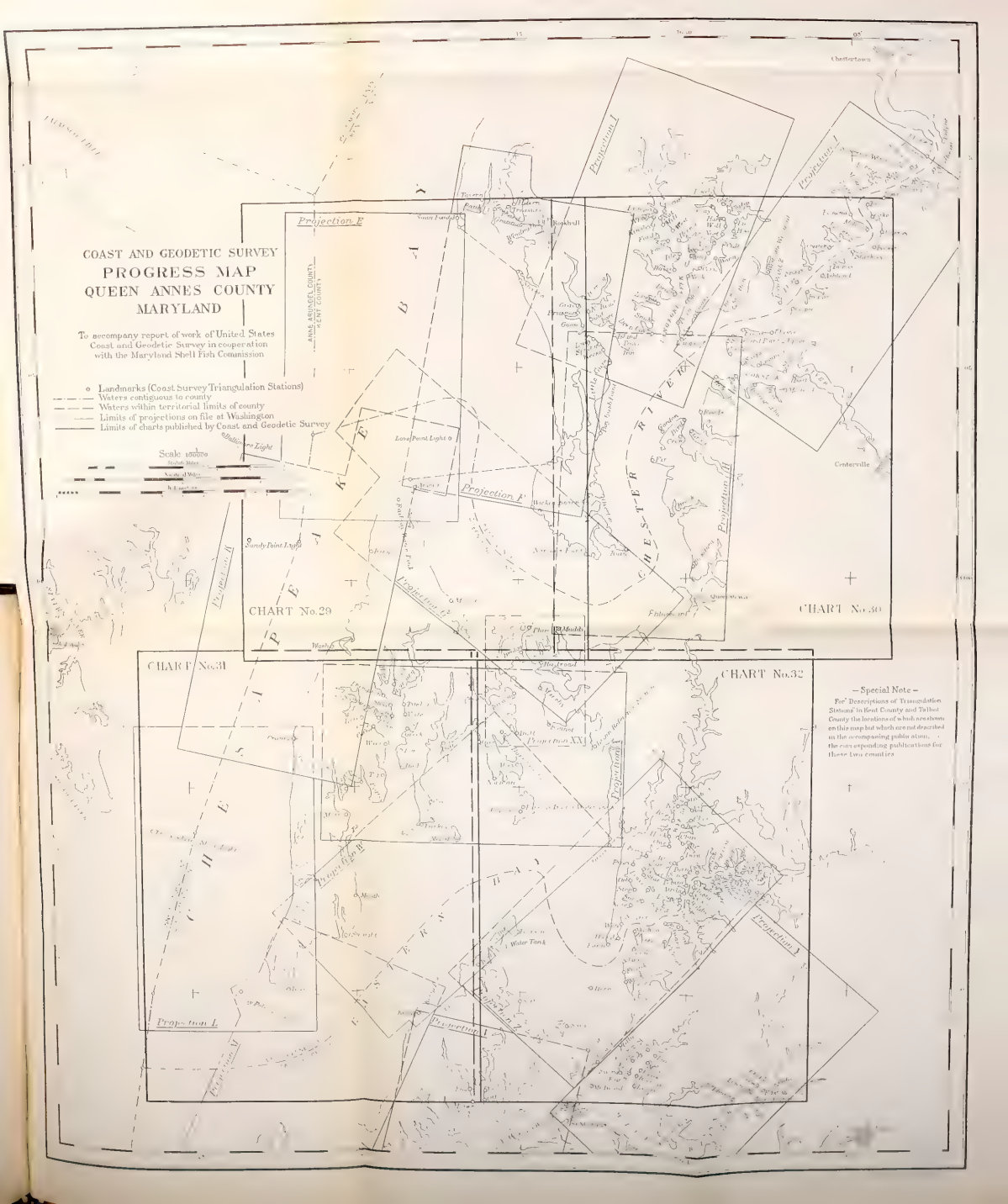
COAST AND GEODETIC SURVEY
PROGRESS MAP
QUEEN ANNES COUNTY
MARYLAND
To accompany report of work of United States Coast and Geodetic Survey in cooperation with the Maryland Shell Fish Commission
Landmarks (Coast Survey Triangulation Stations)
Waters contiguous to county
Waters within territorial limits of county
Limits of projections on file at Washington
Limits of charts published by Coast and Geodetic Survey
Scale 1:80000
Statute Miles
Nautical Miles
Kilometers
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CHART No.30
CHART No.31
CHART No.32
Projection E
Projection F
Projection H
Projection K
Projection L
Projection M
Projection XI
Projection I
Projection J
Chestertown
Centerville
Love Point Light
Sandy Point Light
Thomas Point Shoal Light
Hooper Island Light
ANNE ARUNDEL COUNTY
KENT COUNTY
CHESTER RIVER
CHESAPEAKE BAY
Special Note
For Descriptions of Triangulation Stations in Kent County and Talbot County the locations of which are shown on this map but which are not described in the accompanying public atum, the corresponding publications for these two counties

DEPARTMENT OF COMMERCE AND LABOR
COAST AND GEODETIC SURVEY
O. H. TITTMANN, Superintendent

SURVEY OF OYSTER BARS

ST. MARYS COUNTY MARYLAND

DESCRIPTION OF BOUNDARIES AND LANDMARKS AND REPORT OF WORK OF UNITED STATES COAST AND GEODETIC SURVEY IN COOPERATION WITH UNITED STATES BUREAU OF FISHERIES AND MARYLAND SHELL FISH COMMISSION

By C. C. YATES
CHIEF OF COAST AND GEODETIC SURVEY PARTY
ASSISTANT, COAST AND GEODETIC SURVEY

WASHINGTON
GOVERNMENT PRINTING OFFICE
1911

LETTER OF SUBMITTAL.

DEPARTMENT OF COMMERCE AND LABOR,
COAST AND GEODETIC SURVEY,
Washington, July 6, 1911.

SIR: I have the honor to transmit herewith a report of the officer detailed from the Coast and Geodetic Survey to cooperate with the Bureau of Fisheries and the Maryland Shell Fish Commission in surveying the oyster bars of the State of Maryland, together with certain technical results which are necessary for the interpretation and use of the plats of the survey made by the Government.

This work has been done under the provisions of the act of Congress entitled "An act to authorize the Secretary of Commerce and Labor to cooperate, through the Bureau of the Coast and Geodetic Survey and the Bureau of Fisheries, with the shell fish commissioners of the State of Maryland in making surveys of the natural oyster beds, bars, and rocks in the waters within the State of Maryland," approved May 26, 1906, and of the acts of Congress making appropriations for sundry civil expenses of the Government for the fiscal years ending June 30, 1907, 1908, 1909, 1910, and 1911.

Respectfully,

O. H. TITTMANN, *Superintendent.*

To Hon. CHARLES NAGEL,
Secretary of Commerce and Labor.

CERTIFICATION.

BALTIMORE, MD., *July 5, 1911.*

The following publication is certified to contain correct technical descriptions of all boundaries and landmarks established in St. Marys County by the Maryland Shell Fish Commission in cooperation with the United States Coast and Geodetic Survey.

C. C. YATES,
Chief of Coast and Geodetic Survey Party,
Assistant, Coast and Geodetic Survey.

BALTIMORE, MD., *July 5, 1911.*

Examined and certified to be correct.

WALTER J. MITCHELL,
CASWELL GRAVE,
BENJAMIN K. GREEN,
Maryland Shell Fish Commission.
SWEPSON EARLE,
Hydrographic Engineer.

NOTE.—Certified copies of this publication and of the charts of the natural oyster bars of St. Marys County were filed in the office of the clerk of the circuit court of St. Marys County and in the office of the board of shell fish commissioners on July 6, 1911.

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SURVEY OF OYSTER BARS, ST. MARYS COUNTY, MD.

INTRODUCTION.

PUBLICATIONS.

The preparation of publications relating to the survey of the oyster bars of Maryland has been divided between the Government and the State in accordance with the laws [1] authorizing the work and the natural division of the surveying operations [2] of the cooperating forces.

The publications prepared and issued by the Government, under the direction of the Superintendent of the Coast and Geodetic Survey, consist of a series of charts and a technical report for each county surveyed.[3] The charts show all legal boundaries of oyster bars within the adopted boundaries of the waters opened up for leasing with each county, and the location of all landmarks (Coast and Geodetic Survey triangulation stations) used as a foundation for the delineation of these various boundaries. The technical report gives technical and legal descriptions of all oyster bar and other boundaries, and descriptions of all landmarks shown on the charts, and includes the report of the representative of the Coast and Geodetic Survey in charge of the work of that service in cooperation with the Bureau of Fisheries and the Maryland Shell Fish Commission. These charts and technical reports are prepared and certified for file with the courts and the Commission, as required by the laws of the State, and contain all information necessary to make a permanent record of the work of the Commission and the Government for all future requirements of the courts, or for any resurveys that may become necessary.[4]

The publications prepared and issued by the State under the direction of the Shell Fish Commission consist of annual reports [5] of all the operations of the Commission performed under the provisions of the laws of Maryland,[6] including results of biological

[1] See Appendix A for laws relating to the cooperation of the Coast and Geodetic Survey and Bureau of Fisheries with the Maryland Shell Fish Commission.

[2] See Appendix C for a summary of the particular surveying operations which constitute an "oyster survey" as now being carried on in Maryland.

[3] These charts and technical reports can be obtained by application to the Superintendent of the Coast and Geodetic Survey at Washington, D. C. The publications now ready for issue are those for Anne Arundel, Somerset, Wicomico, Worcester, Calvert, Charles, and St. Marys counties.

[4] The technical records and charts for each county are published separately on account of the requirements of the oyster-culture laws of the State and the practical considerations which make it desirable to have each county "opened up" for oyster culture as soon as practicable after the completion of its survey. For these reasons and the fact that these reports are each arranged for distribution and use in one county only without reference to other published records, much of the text of this publication is of necessity identical with similar previous publications for other counties.

[5] These reports can be obtained by application to the shell fish commission, Marine Bank Building, Baltimore, Md. They are issued annually in October, and the first and second reports are now available for distribution.

[6] See Appendix B for an extract from the Second Report of the Maryland Shell Fish Commission, giving a concise summary of the "Haman Oyster Culture Law."

and economic oyster investigations, methods and results of the hydrographic survey of the boundaries of oyster bars and crab bottoms, the administrative report and financial statement of the Commission, information relating to oyster culture, methods of surveying and leasing of oyster lots, and much other important matter of legal and scientific value.

These two sets of publications are planned and arranged to supplement each other without unnecessary duplication, and when combined they form a complete report of operations, methods, and results of the work of both the Government and State.[1]

COOPERATION OF THE COAST AND GEODETIC SURVEY.

The work of the Coast and Geodetic Survey, as the name of the service indicates, includes a survey of the coasts of the United States made on a geodetic basis. This has involved the gradual construction of a great framework of interstate triangulation for use as a foundation for detail hydrographic and topographic surveys, from which there has been compiled and published a complete set of charts of the coasts of the United States, including all waters of Maryland where oysters grow. This existing triangulation, hydrography, and topography is essential as a foundation for a correct and practical survey of natural oyster bars; and it being one of the fundamental functions of the Coast and Geodetic Survey to furnish such data, the cooperation of the Coast and Geodetic Survey with the Bureau of Fisheries and the Maryland Shell Fish Commission is a practical and natural development of Government work leading to the conservation and increase of the supply of food.

COOPERATION OF THE BUREAU OF FISHERIES.

The Bureau of Fisheries has cooperated with the Coast and Geodetic Survey and the Maryland Shell Fish Commission principally as an adviser in matters relating to the biological and economic survey of oyster bars and the methods to be employed for that purpose.[2] A steam launch, rowing boat, and certain apparatus have also been furnished.

The primary function of the Bureau of Fisheries is to increase the productiveness of marine and fresh waters by such measures as may be best suited to the purpose, and the services rendered in connection with the survey of the oyster bars of Maryland are strictly in line with the fundamental law under which it acts. In certain States other than Maryland similar work has been conducted by the Bureau acting independently, the same ends being attained at greater expense to the Government.

GENERAL STATEMENT OF WORK OF COAST AND GEODETIC SURVEY.[3]

The results obtained from the work of the Coast and Geodetic Survey in cooperation with the Bureau of Fisheries and the Maryland Shell Fish Commission need very little other summary than is indicated by the published Charts of Natural Oyster Bars and the index of hydrographic projections and triangulation stations shown on the county progress maps attached to each report.

[1] See Appendix D of this publication for "Statistics of results of combined operations of the Government and State."

[2] Hon. George M. Bowers, Commissioner of Fisheries, has detailed for this service Dr. H. F. Moore, assistant, Bureau of Fisheries.

[3] For a detail statement of the very large amount of excellent oyster survey work of the Maryland Shell Fish Commission see the annual reports of the Maryland Shell Fish Commission.

The triangulation has been carried on in accordance with the standard methods of the Coast and Geodetic Survey, making this work and that of the Descriptions of Tringulation Stations of permanent value, not only to the State of Maryland in the survey of her oyster bars, but also to the Government for any future work it may do in the regions covered by the oyster-survey operations.

The hydrographic projections and published charts are prepared with all the accuracy permitted by their large scale, especially as to the boundaries of the various shell-fish bottoms in relation to landmarks, but this accuracy of location on the charts is further added to and permanently fixed by published technical descriptions which should minimize the probability of any future dispute as to either landmarks or boundaries.

Stated another way, and quoting from the report of the "Survey of Oyster Bars of Anne Arundel County."

> The geographic positions of the permanent landmarks and signals have been determined with the usual precision of a trigonometric survey, and their locations at all points necessary to provide ample foundation for the surveying and charting operations permitted great accuracy of definition and location for the natural oyster bar and other boundaries established. At the same time, the very important element of permanency of the positions of boundaries has been secured, as the relocation of geodetic positions can always be accomplished by a competent surveyor, even though the original landmarks and monuments have been washed away, as has been the fate of hundreds of such points established by the Coast and Geodetic Survey on the shores of the Chesapeake Bay during the last 65 years.

REPORT OF THE WORK OF THE COAST AND GEODETIC SURVEY IN ST. MARYS COUNTY.

INSTRUCTIONS.

The following letters, together with the laws[1] of the United States relating to the subject, constitute the "instructions" received by the chief of the Coast and Geodetic Survey party engaged on work in connection with the Maryland Shell Fish Commission. They are short and definite, but furnish ample authority and leeway for all legitimate development of the cooperation of the Government and the State in the survey of oyster bars. The "free hand" permitted by these orders, together with the aid and many valuable suggestions received from the officers of the survey at Washington, have proved very beneficial to the work and are greatly appreciated.

DEPARTMENT OF COMMERCE AND LABOR,
OFFICE OF THE SECRETARY,
Washington, June 2, 1906.

SIR: In reply to your letter of May 28, requesting me to designate officers of the Coast and Geodetic Survey and of the Bureau of Fisheries to cooperate with the State of Maryland in making survey of and locating the natural oyster beds, I have the honor to inform you that Mr. C. C. Yates will be designated to cooperate on the part of the Coast and Geodetic Survey as soon as Congress makes the provisions of the act effective by providing an appropriation for the purpose.

Respectfully,

LAWRENCE O. MURRAY, *Assistant Secretary.*

His Excellency Hon. EDWIN WARFIELD,
Governor of Maryland, Annapolis, Md.

DEPARTMENT OF COMMERCE AND LABOR,
COAST AND GEODETIC SURVEY,
Washington, July 3, 1906.

SIR: Upon the receipt of these instructions you will surrender the command, accounts, etc., of the steamer *Endeavor* to the Hydrographic Inspector. * * *

As soon as this transfer is completed you will enter upon the duties of Coast Survey representative on the Shell Fish Commission of Maryland.

You will consult the Commissioners, prepare a program of work, and submit estimates in the usual form.

You are authorized to come to Washington for consultation from time to time as may be necessary.

* * * * * * *

Very respectfully,

O. H. TITTMANN, *Superintendent.*

Capt. C. C. YATES,
United States Coast and Geodetic Survey Steamer Endeavor, Baltimore, Md.

ORGANIZATION AND EQUIPMENT.

The personnel and occupation of the party of the Coast and Geodetic Survey have remained practically unchanged since the beginning of the "oyster survey." Besides

[1] For these laws see Appendix A.

the chief of party, it consists of the necessary triangulators, computers, draftsmen, and temporary employees required to carry on both the surveying operations in the field and the preparation for publication of oyster charts and technical records in the office at Washington.

The equipment for the work of the party has been ample and satisfactory. The large living and office quarters furnished the Government on the Maryland Shell Fish Commission house-boat *Oyster* have been very convenient for the work, besides facilitating efficient cooperation with the surveying and oyster investigation parties of the State. In addition to the accommodations on the *Oyster*, the Coast and Geodetic Survey party has had the constant use of the large steam launch *Inspector* and several other boats furnished by its own service, and the occasional use of the Bureau of Fisheries launch *Canvasback* [1] and the steamer *Governor McLane* [2] of the State fishery force.

The greater part of the equipment of instruments for the operations of both the Government and State has been furnished by the Coast and Geodetic Survey and consists of all necessary theodolites, levels, sextants, drafting instruments, hydrometers, etc., required for all field and office work.

CHRONOLOGICAL STATEMENT OF WORK.

The field work of the Coast and Geodetic Survey in St. Marys County [3] dates from May 2, 1908, when the house-boat *Oyster* left Baltimore for an anchorage in the Patuxent River, inside of Solomons Island. She remained in this harbor for three months, it practically being the only suitable anchorage for the work of the oyster survey for a large part of the Chesapeake Bay shore of both St. Marys and Calvert counties, as well as for the lower Patuxent River. During this period there was a great amount of windy weather and consequent rough seas, which prevented work in the open bay, and in general the triangulation foundation for the oyster survey made very slow progress.

On August 4, 1908, the part of the work necessarily done from the mouth of the Patuxent River was completed, and the *Oyster* was moved about 7 miles up the river to St. Leonards Creek.

On August 18, 1908, the headquarters for the field work was again changed by moving the house-boat *Oyster* 8 miles still farther up the river to an anchorage in Battle Creek, where she remained until the completion of that part of the field work which naturally included all the Patuxent River work of Charles and Calvert counties as well as that of St. Marys County, although the results are published separately.

On September 3, 1908, the house-boat finally left the Patuxent River for Smiths Creek, which is one of the tributaries of Potomac River. From this station there was completed all the remaining work of the Chesapeake Bay shore of St. Marys County as well as that of Smiths Creek and the mouth of St. Marys River.

During the stay at Smiths Creek the work was greatly delayed by smoky atmosphere, especially that portion in the open Chesapeake Bay just north of the mouth of Potomac River, where some of the triangulation sides were necessarily comparatively long.

[1] By courtesy of Dr. H. F. Moore, U. S. Bureau of Fisheries.

[2] By courtesy of Capt. James A. Turner, commanding.

[3] The field work of St. Marys, Calvert, and Charles counties was so intermixed in the Patuxent River that the chronological statement of work for any one of these counties necessarily includes a considerable part of the work of the other two counties.

On October 7, 1908, the house-boat *Oyster* was towed to an anchorage at the upper end of St. Marys River off the site of the monument marking Calvert's first settlement in Maryland. From this point the remaining work in St. Marys River, St. Inigoes Creek, and St. Georges River was quickly finished on account of very good weather.

On October 28, 1908, the State steamer *Governor McLane* towed the *Oyster* to an anchorage off Rock Point, in the mouth of Wicomico River. From this location there was done all the oyster survey work of both St. Marys and Charles Counties in Wicomico River, St. Catherine Sound, and adjacent waters.

On November 25, 1908, the four launches of the combined oyster-survey parties towed the house-boat *Oyster* to harbor off the city of Leonardtown, at the head of Breton Bay. From this station all the oyster-survey work was completed in both Bretons Bay and St. Clements Bay.

On December 18 and 19, 1908, the *McLane* towed the house-boat *Oyster* and launches to their winter quarters in Baltimore.

On December 2, 1909, it was found necessary to obtain additional triangulation information for the publication of the technical report for Calvert County, which incidentally involved new work required for the report for Charles and St. Marys counties, and field work was carried on for that purpose from that date to December 8, 1909.

Again, from July 20 to August 11, 1910, while the house-boat *Oyster* was anchored in the mouth of the Patuxent River for the purpose of carrying on the oyster survey operations in the bay-shore waters of Dorchester County, a number of days when work could not be done in the open bay were employed in checking up deficiencies in the description of stations required for the publications of both Charles and St. Marys Counties.

The large amount of office work connected with the "oyster survey" of St. Marys County, including computations and drafting necessary for the preparation for publication of the oyster charts and the technical records, was continued intermittently with the office work of other counties from the beginning of the fieldwork in St. Marys County to the time of filing of the certified oyster charts and the technical reports in the archives of the Commission and with the clerk of the circuit court of St. Marys County on July 6, 1911.

STATISTICS.[1]

Landmarks and triangulation signals erected	204
Monuments planted to mark triangulation stations	204
Triangulation stations occupied for observations of horizontal angles	186
Old triangulation stations recovered	33
New triangulation stations established	205
Total old and new triangulation stations marked and described	238
Linear miles of shore line covered by triangulation (approximate)	160
Square miles covered by triangulation (approximate)	180
Hydrographic projections prepared and completed as records of oyster boundaries	15
Triangles computed	443
Geographic positions computed	210
Corners of oyster boundaries established by computation	603

[1] These statistics only include field and office work directly performed by the party of the Coast and Geodetic Survey in connection with the oyster survey of St. Marys County, and do not include the many thousands of soundings and examinations of the character of the bottom made by the engineers of the Commission, which are of considerable value to the Coast and Geodetic Survey as hydrographic records for future use in connection with the preparation of new editions of charts of the waters of Maryland. See Appendix D of this publication for "Statistics of results of combined operations of the Government and the State."

Back azimuths and distances computed from corners of boundaries to triangulation stations	1,809
Descriptions of triangulation stations prepared for publication	238
Descriptions of oyster boundaries prepared for publication	124
Charts of Natural Oyster Bars prepared for publication	8
Progress map prepared for publication	1

GENERAL REMARKS.

Before ending this report the representative of the Coast and Geodetic Survey wishes to renew his statement of appreciation of the courteous assistance received from various Government and State officials and others interested in the oyster industry of Maryland, especially to the following:

To his colleague from the Department of Commerce and Labor, Dr. H. F. Moore, of the Bureau of Fisheries, whose well-known scientific knowledge of all matters relating to oysters has been of great value to the work.

To Mr. Walter J. Mitchell, chairman of the Maryland Shell Fish Commission, who, by his administrative ability in carrying out the complicated requirements of the oyster laws and by his unfailing tact, has made the cooperation of the various services engaged on the work both agreeable and effective.

To Dr. Caswell Grave, secretary of the commission, who, as editor of the commission's annual report and commissioner in charge of the biological and economic oyster investigations, has been brought into constant contact with the Government work and aided its operations in every way.

To Mr. Benjamin K. Green, treasurer of the commission, who has looked after the equipment and commissary of the house-boat in such a way as to add greatly to the comfort and convenience of the party of the Coast and Geodetic Survey.

To Mr. Swepson Earle, hydrographic engineer to the Commission, whose knowledge of the work from former service in the Coast and Geodetic Survey has greatly facilitated his practical use of the technical data furnished by the Government.

To Mr. Thomas H. Robinson, counsel to the Commission, for courteously furnishing valuable information relating to county boundaries.

And to the many others connected with the Commission or who, as residents in the locality where the work was being carried on, have greatly assisted by furnishing important information or willing services.

CHARTS AND MAPS.

CHARTS OF NATURAL OYSTER BARS.

The charts [1] of the natural oyster bars of St. Marys County, published by the Coast and Geodetic Survey from results of surveys of the Government in cooperation with the Maryland Shell Fish Commission, consist of eight sheets covering all the waters of St. Marys County in Patuxent River, Chesapeake Bay, Smiths Creek, St. Marys River, and tributaries, Bretons Bay, St. Clement Bay, and Wicomico River.[2] They are published on a scale of 1 part in 20,000 (approximately 3⅙ inches to a statute mile) and are constructed on polyconic projections and based on the United States standard datum of the Coast and Geodetic Survey.

These charts show all oyster bars and other boundaries established by the Commission and are certified for the purpose of filing in the office of the clerk of the Circuit Court of Charles County and in the office of the Commission at Annapolis, as required by the oyster laws of Maryland.

In addition to the oyster bar and other boundaries, the charts show the location and name of all landmarks (United States Coast and Geodetic Survey triangulation stations) used in making the survey, together with the hydrography and topography [3] necessary to make the technical definitions and delineations of boundaries readily understandable both by the people engaged in the oyster industry and the general public who may become interested through leasing of barren bottoms for oyster culture.

The names of the oyster bars are those used locally, as nearly as could be ascertained by the hydrographic engineer of the Commission. When there was no local name in common use, a name was selected from one of the prominent features of the vicinity. By the use of recognized names or those that would naturally suggest certain sections of water, it is believed that much confusion will be avoided in the location on the charts of the oyster bars, especially by those not familiar with the use of maps.

The corners of the oyster bars are numbered from 1 to the total number of corners in each area under consideration. Where boundaries adjoin, making one point a corner of two or more oyster bars, these points have two or more numbers, each number corresponding to the bar in which the figure is located. The numbers of the corners correspond with the technical and legal descriptions of this publication under the heading "Boundaries of natural oyster bars."

The landmarks and oyster bars have been grouped in the "Contents" of this publication in accordance with the charts upon which they are shown. To find a particular

[1] These charts can be obtained by application to the Superintendent of the Coast and Geodetic Survey, at Washington, D. C.

[2] The open waters of the Potomac River, although within the accepted boundaries of the State of Maryland, are under the joint jurisdiction of both Maryland and Virginia as to fisheries, and therefore the natural oyster bars of the Potomac River were not surveyed or are they shown in any way on the oyster charts of the adjacent counties of St. Marys and Charles.

[3] Much of the detail of the inshore topography was obtained from the excellent map of St. Marys County, prepared and published by the Maryland Geological Survey under the direction of Dr. William Bullock Clark from surveys of the Maryland Geological Survey in cooperation with the U. S. Geological Survey.

oyster bar or landmark which is only known by name, consult the "Contents" and the desired chart and general location will be indicated. To find the name of a bar or landmark which is only known by location, consult the progress map at the end of this publication for the number of the chart on which it is to be found, and then examine the known locality on the chart for the name of the bar or landmark in question.

The contours on the charts showing the depth of water at mean low tide have been taken from the hydrographic sheets of former work of the Coast and Geodetic Survey. Four curves were selected as being the most convenient for taking off from the original hydrographic sheets and the ones of greatest value to those interested in shellfish industries. The 1-fathom contour (6 feet) and the 5-fathom curve (30 feet) correspond in a general way to the inner and outer limits of all the oyster bars surveyed. The 3-fathom contour (18 feet) furnishes the curve of about the average depth of water on the oyster bars and the 10-fathom contour (60 feet) serves in a general way to indicate the outer limits of probable oyster culture.

The boundaries of the waters within the "territorial limits of the county" and the boundaries of the "waters contiguous to the county" opened up for the leasing with St. Marys County are plainly indicated on the charts. A full technical description of these boundaries is given in this publication under the heading "Boundaries of county waters."

The areas in acres of the oyster bars were determined under the direction of the hydrographic engineer of the Commission by two independent planimeter measurements of the areas as delineated on the smooth projections of the Coast and Geodetic Survey. These areas are given in small figures in parentheses on the face of the chart within the boundaries of the different shellfish bottoms.

The symbols used on the charts for the different kinds of boundaries, triangulation stations, contours of depth of water, etc., require no other explanation than that given in the legend and other notes on the face of the charts.

LEASING CHARTS.

The leasing charts of St. Marys County, like those for Anne Arundel, Somerset, Wicomico, Worcester, Calvert, and Charles counties, have been prepared under the direction of the hydrographic engineer of the Commission. These charts are constructed on polyconic projections and are based on the United States standard datum of the Coast and Geodetic Survey. They are made on the scales of 1 part in 5,000 or 1 part in 10,000, as the needs of oyster culture may require. Anne Arundel County required 13 leasing charts; Somerset County, 12 charts; Wicomico County, 2 charts; Worcester County, 3 charts; Calvert County, 5 charts; Charles County, 2 charts; and St. Marys County, 8 charts to cover their oyster bottoms.

These charts show all the oyster bars, crab bottoms, and clam beds and other boundaries established by the Commission, and also all boundaries of oyster lots leased for the purpose of oyster culture, thus making them comprehensive and valuable records of the results of the operations of the oyster-culture laws.

The lots leased under the provision of the "old 5-acre law" are frequently of irregular shape, but the lots leased under the provision of the new oyster laws must be of rectangular shape by the terms of that act. For this latter purpose the leasing charts

have been divided by parallels of latitude and meridians of longitude into small rectangles of 1 acre or 5 acres, as may be best suited to the area under consideration, and prospective leaseholders by the rules of the Commission are compelled to select whole rectangles as far as possible.

For reasons of the present changeable nature of the number of lots leased and the large number of charts required, the leasing charts are not likely to be published for some years, but they can be seen at any time on file at the offices of the Commission, in the Marine Bank Building at Baltimore.

PROJECTIONS.

The polyconic projections [1] covering St. Marys County waters are 15 in number and on the scale of 1 part in 10,000. They were constructed by draftsmen of the Coast and Geodetic Survey, but the sextant positions which determine the location of the legal boundaries of the oyster bars as delineated by the Shell Fish Commission were plotted by the draftsman of the Commission.

A copy of each of these projections, with all the plotted positions of triangulation stations, shore line, sextant positions, and boundaries of oyster bars, was made under the direction of the hydrographic engineer of the Commission by pricking through with a sharp needle the intersections of the projection lines and all other points as plotted on the original sheets.

These projections (in duplicate) are the original records of all oyster bar and other boundaries established by the Commission, one set being filed in the archives of the Coast and Geodetic Survey, at Washington, and the other set in the archives of the Shell Fish Commission.

PROGRESS MAPS.

The progress map to be found at the end of this publication is on a scale of 1 part in 100,000, and shows in outline the work accomplished by the United States Coast and Geodetic Survey in St. Marys County and contiguous waters. It gives the scheme of all the charts and smooth projections constructed in connection with the survey, the location and names of all triangulation stations used as a basis for the surveying work, and the "boundaries of county waters" established by the Commission for the purpose of carrying out the laws of Maryland relating to oyster culture.

Besides indicating the amount of work done by the Coast and Geodetic Survey in connection with the work of the Shell Fish Commission, this progress map will be of special value for index purposes to engineers and others searching for the particular chart or projection covering the locality of the oyster bars or landmarks that may be under consideration.

The progress maps [2] accompanying the first and second annual reports of the Maryland Shell Fish Commission were prepared under the direction of the hydrographic engineer of the Commission. They are on the scale of 1 part in 400,000, and show the outline of the tidewater counties of Maryland, with shaded areas to indicate the waters already covered by the operations of the oyster survey.

[1] For the scheme of these projections see the progress map at the end of this publication.

[2] These maps and reports can be obtained by application to Maryland Shell Fish Commission, Marine Bank Building, Baltimore, Md.

BOUNDARIES OF THE COUNTY WATERS.[1]

WATERS WITHIN TERRITORIAL LIMITS OF COUNTY.

The laws of Maryland relating to oyster culture provide that "no person shall be permitted, by lease, assignment, or in any other manner, to acquire a greater amount of land than ten acres situated within the territorial limits of any of the counties, or one hundred acres in any other place."

The boundary line[2] between the waters "within the territorial limits" of St. Marys County and the waters in "any other place," as established by the Shell Fish Commission for the purpose of carrying out the oyster laws, and delineated on the "oyster charts" and the smooth projections of the Coast and Geodetic Survey, is technically described and defined as follows:

Patuxent River waters of St. Marys County.—Following the boundary line between St. Marys County and Charles County along the middle of Indian Creek as laid down on Chart No. 19, Natural Oyster Bars, Maryland, to a point defined by the intersection of this boundary line with the boundary line in the Patuxent River between Calvert County on one side and Charles and St. Marys counties on the other side as laid down on Chart No. 19, Natural Oyster Bars, Maryland; thence down the channel of Patuxent River following the channel boundary line between St. Marys and Calvert counties as laid down on Charts Nos. 19 and 20, Natural Oyster Bars, Maryland, to a point in the mouth of Patuxent River defined by the intersection of this boundary line with a straight line connecting a point defined by latitude 38° 19′ 09.8″ and longitude 76° 25′ 21.0″[3] situated on Drum Point and a point defined by latitude 38° 18′ 35.9″ and longitude 76° 23′ 59.8″ situated on Hog Point; thence along a straight line ending at a point defined by latitude 38° 18′ 35.9″ and longitude 76° 23′ 59.8″ situated on Hog Point on the southern side of the entrance to Patuxent River.

Chesapeake Bay waters of St. Marys County.—Commencing at a point defined by latitude 38° 18′ 35.9″ and longitude 76° 23′ 59.8″ situated on Hog Point on the southern side of the entrance to Patuxent River; thence along the mean low water line of the Chesapeake Bay shore of St. Marys County across the mouth of all inlets less than 100 yards in width, around Cedar Point and Point No Point, across the mouth of St. Jerome Creek, and around Point Look-in to a point defined by latitude 38° 02′ 11.0″ and longitude 76° 19′ 20.8″ situated on Point Lookout on the northern side of the mouth of Potomac River.

Potomac River waters of St. Marys County.—Commencing at a point defined by latitude 38° 02′ 11.0″ and longitude 76° 19′ 20.8″ situated on Point Lookout on the northern side of the mouth of Potomac River; thence along the mean low-water line of the Potomac River shore of St. Marys County across the mouth of all inlets less than 100 yards in width, around Cornfield Harbor and Cornfield Point to a point defined by latitude 38° 04′ 53.4″ and longitude 76° 22′ 24.2″ situated on a point on the south side of the entrance to Briscoe Creek; thence in a straight line across the mouth of Briscoe Creek to a point defined by latitude 38° 05′ 05.4″ and longitude 76° 22′ 35.3″ situated on a point on the north side of Briscoe Creek; thence along the mean low-water line of the Potomac River shore of St. Marys County across the mouth of all inlets less than 100 yards in width, to a point defined by latitude 38° 05′ 14.6″ and longitude 76° 22′ 47.8″ situated on the southeastern side of the entrance to Harry James Creek; thence in a straight line across the mouth of Harry James Creek to a point defined by latitude 38° 05′ 27.6″ and longitude 76° 23′ 16.5″ situated on the northwestern side of the entrance to Harry James Creek; thence along the mean low-water line of the Potomac River shore of St. Marys County across the mouth of all inlets less than 100 yards in width, to a point defined by latitude 38° 05′ 37.8″ and longitude 76° 23′ 33.2″ situated on Grays Point on the eastern side of Calvert Bay entrance to Smiths Creek;

[1] For a complete historical and legal description of the boundaries of the counties of Maryland, the valuable publication entitled "The Counties of Maryland—Their Origin, Boundaries, and Election Districts," prepared by Dr. Edward B. Mathews and published by the Maryland Geological Survey under the direction of Dr. William Bullock Clark, superintendent, should be consulted, as the boundaries described in this publication have been established and technically defined for the purpose of carrying out the oyster laws of the State, and may or may not be correct for other purposes.

[2] See Charts of Natural Oyster Bars, published by the Coast and Geodetic Survey, and the progress map at the end of this publication.

[3] Latitudes and longitudes based on the United States standard datum of the U. S. Coast and Geodetic Survey.

thence in a straight line across the mouth of Smiths Creek to a point defined by latitude 38° 06′ 12.8″ and longitude 76° 25′ 05.0″ situated on Kitts Point on the western side of the entrance to Smiths Creek; thence along the mean low-water line of the Potomac River shore of St. Marys County across the mouth of all inlets less than 100 yards in width, to a point defined by latitude 38° 06′ 18.0″ and longitude 76° 25′ 18.4″ situated on Kitts Point on the eastern side of the entrance to St. Marys River; thence in a straight line across the mouth of St. Marys River to a point defined by latitude 38° 06′ 18.8″ and longitude 76° 27′ 53.9″ situated on a point on the southeast side of St. Georges Island on the western side of the entrance to St. Marys River; thence along the mean low-water line of the Potomac River shore of St. Marys County across the mouth of Island Creek and other inlets less than 100 yards in width, to a point defined by latitude 38° 08′ 04.2″ and longitude 76° 29′ 58.6″ on the southeastern side of the Potomac River entrance to the straits between St. Georges Island and the mainland leading into St. Georges River; thence in a straight line across the straits separating St. Georges Island from the mainland to a point defined by latitude 38° 08′ 15.9″ and longitude 76° 30′ 07.2″ situated on the northwestern side of the Potomac River entrance to the straits between St. Georges Island and the mainland leading into St. Georges River; thence along the mean low-water line of the Potomac River shore of St. Marys County around Piney Point and across the mouth of Herring Creek, Blake Creek, Poplar Hill Creek, and other inlets less than 100 yards in width, to a point defined by latitude 38° 13′ 58.3″ and longitude 76° 41′ 13.3″ situated on Higgins Point on the eastern side of the entrance to Bretons and St. Clement bays; thence in a straight line across the Heron Island Sound entrance to Bretons and St. Clement bays to a point defined by latitude 38° 12′ 54.7″ and longitude 76° 43′ 12.0″ situated on the eastern extremity of the sand bar known as Heron Island; thence in a straight line along the center of Heron Island to a point defined by latitude 38° 13′ 07.7″ and longitude 76° 43′ 51.7″ situated on the western extremity of the sand bar known as Heron Island; thence in a straight line across the Heron Island Sound entrance to St. Clement and Bretons bays to a point defined by latitude 38° 12′ 30.7″ and longitude 76° 44′ 34.8″ situated on the southeastern end of Blakistone Island; thence along the mean low-water line of the Potomac River shore of Blakistone Island of St. Marys County around Blakistone Island Light and across all inlets less than 100 yards in width to a point defined by latitude 38° 12′ 50.8″ and longitude 76° 44′ 59.0″ situated on the northwestern end of Blakistone Island on the southeastern side of Dukehart Channel; thence in a straight line across the Dukehart Channel entrance to St. Clement and Bretons bays to a point defined by latitude 38° 13′ 19.8″ and longitude 76° 45′ 09.9″ situated on the mainland on the northwest side of Dukehart Channel; thence along the mean low-water line of the Potomac River shore of St. Marys County across the mouth of Dukehart Creek and other inlets less than 100 yards in width to a point defined by latitude 38° 13′ 39.7″ and longitude 76° 46′ 39.9″ situated on the eastern side of the eastern St. Catherine Sound entrance to Wicomico River.

Wicomico River waters of St. Marys County.—Commencing at a point defined by latitude 38° 13′ 39.7″ and longitude 76° 46′ 39.9″ situated on the eastern side of the eastern St. Catherine Sound entrance to Wicomico River; thence in a straight line across the eastern St. Catherine Sound entrance to Wicomico River to a point defined by latitude 38° 13′ 42.2″ and longitude 76° 47′ 17.5″ situated on the extreme southeast end of the sand bar making out from the southeast end of St. Catherine Island; thence along a line on the center of the sand bar making out from the southeast end of St. Catherine Island as laid down on Chart No. 26, Natural Oyster Bars, Maryland, to a point defined by latitude 38° 14′ 02.6″ and longitude 76° 47′ 32.6″ situated on the southeastern end of St. Catherine Island; thence along the mean low-water line of the Potomac River shore of St. Catherine Island of St. Marys County across all inlets less than 100 yards in width to a point defined by latitude 38° 14′ 28.9″ and longitude 76° 48′ 10.9″ situated on the northwestern end of St. Catherine Island; thence in a straight line to a point in the mouth of Wicomico River defined by the intersection of the boundary line down the middle of Wicomico River between St. Marys and Charles counties as laid down on "Chart No. 26, Natural Oyster Bars, Maryland," and a straight line between a point on the northwestern end of St. Catherine Island defined by latitude 38° 14′ 28.9″ and longitude 76° 48′ 10.9″ and the center point of Cobb Point Bar Light defined by latitude 38° 14′ 33.3″ and longitude 76° 49′ 36.9″; thence following the boundary line between St. Marys County and Charles County along the middle of Wicomico River as laid down on "Chart No. 26, Natural Oyster Bars, Maryland," to the end of the water boundary between St. Marys County and Charles County on the northeastern side of the upper Wicomico River as laid down on "Chart No. 26, Natural Oyster Bars, Maryland."

WATERS CONTIGUOUS TO COUNTY.

The oyster laws of Maryland provide that a true and accurate delineation of all natural oyster bars shall be made on copies of charts of the United States Coast and Geodetic Survey," which said copies shall be filed in the office of the said Commissioners," and "in the office of the clerks of the circuit courts for the respective counties wherein the grounds so designated may lie."

For the purpose of carrying out the latter part of this section of the law and for the purpose of establishing the limits of the oyster-culture area to be opened up for leasing with each county surveyed, it is necessary for the Shell Fish Commission to establish a boundary line between the waters contiguous to but not within the territorial limits of each county and the waters contiguous to but not within the territorial limits of adjacent counties.

This boundary line has been delineated on the "Charts of Natural Oyster Bars," published by the Coast and Geodetic Survey, and is technically described and defined as follows:

Commencing at a point located at the mouth and near the middle of Patuxent River defined by the intersection of Patuxent River channel boundary line between Calvert County and St. Marys County as laid down on Chart No. 20, Natural Oyster Bars, Maryland, and the straight line between a point situated on Hog Point on the southern side of the entrance to Patuxent River defined by latitude 38° 18′ 35.9″ and longitude 76° 23′ 59.8″[1] and a point situated on Drum Point on the northern side of the entrance to Patuxent River defined by latitude 38° 19′ 09.8″ and longitude 76° 25′ 21.0″; thence along the Chesapeake Bay boundary between Calvert and St. Marys counties as laid down on "Chart No. 20, Natural Oyster Bars, Maryland," to a point defined by latitude 38° 19′ 37.7″ and longitude 76° 19′ 19.0″ situated about 5¼ miles southeast of Cove Point Light and 5¼ miles east by north of Drum Point Light; thence along the Chesapeake Bay boundary between St. Marys and Dorchester counties as laid down on "Chart No. 20, Natural Oyster Bars, Maryland," to a point defined by latitude 38° 17′ 58.0″ and longitude 76° 18′ 59.7″ situated about 2¾ miles east of Cedar Point Light; thence along the Chesapeake Bay boundary between St. Marys and Dorchester counties as laid down on "Charts Nos. 20, 21, and 22, Natural Oyster Bars, Maryland," to a point defined by latitude 38° 04′ 34.8″ and longitude 76° 12′ 01.0″ situated near the middle of Chesapeake Bay near a shoal marked by a red buoy of the U. S. Bureau of Lighthouses, which is about 5⅝ miles west by north of Holland Island Bar Light and 7⅛ miles east by north of Point Lookout Light; thence with the waters of Chesapeake Bay in a straight line between Somerset County and St. Marys County as laid down on "Charts Nos. 22 and 23, Natural Oyster Bars, Maryland," to a point on Smith Point defined by the intersection of the straight line Maryland-Virginia boundary across Chesapeake Bay and the mean low-water line of the southern shore of Potomac River; thence in a straight line across the mouth of Potomac River along the line dividing the "waters of the Potomac River under the joint jurisdiction of Maryland and Virginia as to fisheries" from the waters of St. Marys County in Chesapeake Bay, as laid down on "Chart No. 23, Natural Oyster Bars, Maryland," to a point defined by latitude 38° 02′ 11.0″ and longitude 76° 19′ 20.8″ situated on Point Lookout on the northern side of the mouth of Potomac River.[2]

[1] Latitudes and longitudes based on the United States standard datum of the United States Coast and Geodetic Survey.

[2] The waters of the Potomac River, although belonging to the State of Maryland, are under the joint jurisdiction of Maryland and Virginia as to fisheries, and for this reason the Maryland Shell Fish Commission did not consider it necessary to define the "waters contiguous to St. Marys County" lying in the Potomac River.

LANDMARKS (UNITED STATES COAST AND GEODETIC SURVEY TRIANGULATION STATIONS).

EXPLANATION.

The oyster laws of Maryland authorizing the survey to be made by the Shell Fish Commission provide for "an accurate report of said survey, setting forth such a description of landmarks as may be necessary to enable the said board, or their successors, to find and ascertain the boundary lines of said natural oyster beds, bars, and rocks, as shown by delineation on the maps and charts." The law of the United States authorizing the cooperation of the Department of Commerce and Labor in the survey of natural oyster bars of Maryland provides for the erection of "such structures as may be necessary to mark the points of triangulation, so that the same may be used for such future work of the Coast and Geodetic Survey as the said bureau may be hereafter required to perform in prosecuting the Government coast survey of the navigable waters of the United States located within the State of Maryland."

Under the provisions of the sections of the laws stated above, the markings and descriptions of landmarks must be sufficient for the present and future needs of both the Government and the State. With this end in view, considerable work has been expended in erecting permanent monuments at the triangulation stations and in the proper description of their location.

An effort has been made to arrange the descriptions of location and character of landmarks in a uniform and logical manner. The descriptions start with the assumption that the individual seeking a landmark has only an indefinite idea of its location. They gradually proceed from description of the general locality of a landmark to the descriptions of its immediate surroundings. This is followed by specific details of the character of the center and reference marks and a "round" of reference angles and distances which in themselves frequently contain enough information to furnish an independent and reliable location of the triangulation station.

METHOD OF DESCRIBING TRIANGULATION STATIONS.

The separate descriptions of triangulation stations should not be used without reading the following explanation of the method of describing the triangulation stations, as it contains certain details that are common to all the landmarks described in this publication and which are omitted in the separate descriptions as being needless repetitions:

Name.—The title at the top of each separate description is the name by which the landmark or triangulation station is known and designated in all work and published oyster records or oyster charts of both the Government and State. The selection of the name is usually left to the triangulator establishing the station, and it may or may not have geographic or other significance in reference to the locality.

General locality.—Under this heading is given the general locality of the landmark in reference to well-known and prominent natural or artificial features, such as the

nearest body of water, town, river, steamer wharf, well-defined point of land, church, or any other feature that is likely to remain both permanent and prominent.

This heading also covers a reference to the published chart or map which shows the location of the station most clearly. Nearly all the triangulation stations described in this publication are plainly indicated by name and a triangulation symbol on the published charts of oyster bars of Maryland. In this case they are referred to by serial number only, the words "charts of oyster bars of Maryland" being omitted to avoid needless repetition. These published oyster charts are on the large scale of 1 part in 20,000 (approximately $3\frac{1}{6}$ inches to a statute mile) and show the location of the triangulation stations so clearly that in many cases the written descriptions will not be required to find them.

Immediate locality.—Under this heading is given the description of the "observed station" in reference to its immediate surroundings. This is supposed to include a statement of the station's estimated elevation above high water or some other well-defined level of the locality, such as a road or house; the character of the ground on which it is located, such as marsh land, sand beach, cultivated field, or meadow; estimated bearings in points of the compass and estimated distances in yards *from* (not *to*) easily recognized features, such as extreme end of point, edge of bluff, bank of creek, line of telephone poles, shore line, barn, house, fence, ditch, trees, or any other definite detail, such as being on range with the tangent of an island and a church; and so forth.

When a standard monument has been established near the station as a "reference station," this heading also covers a statement of the true bearing of the monument in degrees and minutes and its measured distance in meters, as it is the first object that is likely to catch the eye when the immediate vicinity of the desired station is reached and might be mistaken for the center mark of the "observed station" unless special attention is called to it.

The distinction between the "observed station" and "reference station" should be carefully noted by anyone making use of the description of stations for any future surveying operations.

The "observed station" is located at the particular triangulation point covered by the description of stations, and is the one whose geographic position is first computed, as it is the point which was "occupied" and "observed on" for horizontal angles. However, in spite of the primary importance of the location of the "observed station," it will be noted from the description of stations that frequently it is not marked as well as the "reference station," and in many instances has only a pine stub to indicate its position. This is the case for the reason that the necessity of intervisibility of landmarks usually made it compulsory to locate "observed stations" on edges of banks and ends of points of land, which in the tidewater section of Maryland generally means they will be washed away in a short period of years. The past experience of the Coast and Geodetic Survey in this region has shown the great need of "reference stations," if the frequent reestablishment of a new framework of triangulation is to be avoided.

The chief reason and need for the establishment of the "reference station," or secondary station, as it might be well named, is explained in the preceding paragraph, but in several instances other reasons, such as the location of the "observed station" on an unstable sand dune, in a cultivated field, in front of a residence, or other places

objectionable to the landowner, have led to establishment of "reference stations." The location of the "reference station" in relation to the "observed station" is fixed for plotting on charts or for computation of its geographic position by checked measurements of its distances and azimuth from the "observed station."[1]

Marks.—Under this heading is given a description of the character of the permanent monuments or other marks of the location of the "observed station," and of the "reference station" where one has been established.

All the marks designated in the descriptions as "the center point of triangle on standard cement monument" are exactly alike. These monuments are made of cement, sand, and gravel, and are 2 feet long and 8 inches square at top and bottom. Their tops are all marked with the same brass mold and show a center hole surrounded by a triangle, with the letters "M. S. F. C." arranged around the vertex and the letters "U. S. C. S." underneath the base of the triangle. The center hole is always in the center of the top of the monument by construction, and if this is found to have been broken off without disturbing the bottom the center of its square section can be used as the location of the station.

All the "standard cement monuments," whether used for marking the "observed station" or "reference station," have been planted upright in exactly the same manner, with their tops projecting 3 or 4 inches above the surface of the ground, unless otherwise stated.

Therefore, as the above facts in reference to the "standard cement monuments" are a constant element in all cases, the repetition of these facts in the description of stations is made needless by this one statement.

References.—Under this heading are given the "rounds" of directions and distances to all objects that might be useful in locating the stations when the surface marks can not be found. It is also contemplated that for general purposes of topography, hydrography, or location of boundaries of oyster bars these references will be sufficient in many cases to relocate the position of an "observed station" or "reference station" when both of them have been destroyed.

The first reference object given in the descriptions is always a triangulation station visible from the station being described, this, if possible, being a lighthouse, church spire, or other permanent and prominent point. Its direction is taken as being 0° 00′ 00″, and the directions of all other objects are measured from it as an initial point, the angles being taken in a clockwise direction (left to right).

The true bearing[2] of the initial object is always given in parentheses alongside its name. This furnishes means for the calculation of the bearings of any of the other reference objects for the purposes of locating a station by horizontal angles or for the relocation of corner buoys of oyster-bar boundaries by the method of compass directions described in this publication under the heading of "Boundaries of oyster bars."

The distances in the last column under "References" are given in three different units, which vary according to their accuracy. The "miles" are statute miles and may be considered only as rough estimates. The "yards" are more accurate, but must be

[1] Geographic coordinates (latitude, longitude, distance, and azimuth) relating to any of the "observed stations" or of the "reference stations" described in this publication can be obtained by application to the Superintendent of the Coast and Geodetic Survey, at Washington, D. C.

[2] The mean magnetic variation for St. Marys County was 5° 25′ west of north in 1910 and increasing at the rate of 4′ yearly.

looked on as results generally obtained by pacing or careful estimating. The "meters," however, are accurate to the degree indicated by their decimals and in every case have been measured with a steel tape. In the same manner the accuracy of the directions are indicated by the refinement of angular measure with which they are recorded.

DESCRIPTIONS OF TRIANGULATION STATIONS.

PRINCE.

General locality.—Western shore of Patuxent River about one-fourth of a mile north of mouth of Swanson Creek. (See chart No. 19.)

Immediate locality.—Observed station is in pasture about 20 feet above high water, 15 yards northwest of edge of bank, 75 yards northeast of a grove of trees and 100 yards southwest of another grove of trees. Locust trees form a fringe along edge of bank.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Leitch" (S. 83° 01′ E.)	0	00	00	.....	¾ mile.
Square chimney on house	0	02	..	.....	¾ mile.
Chimney on store at Buena Vista	19	15	..	.....	1¾ miles.
Chimney of Dr. Huggins house at Buena Vista	21	07	..	.....	1¾ miles.
Nearest chimney on Gourley house on Hallowing Point	55	16	..	.....	2½ miles.
Nail in blaze in locust tree (3 inches diameter)	79	38	30	.....	15.94 meters.
Nail in blaze in locust tree (4 inches diameter)	110	13	30	.....	14.55 meters.
Outside chimney on large house on hill	150	45	..	.....	¾ mile.
Near end of peak of roof	226	02	..	.....	¾ mile.
Middle of clump of trees	273	00	..	.....	100 yards.
Chimney of house	311	04	..	.....	1¾ miles.
Nail in blaze in crotch of locust tree (6 inches diameter)	350	39	10	.....	19.27 meters.

LEITCH.

General locality.—Eastern shore of Patuxent River on prominent point opposite mouth of Swanson Creek given on chart as Gods Grace Point but known locally as Leitchs Point. (See chart No. 19.)

Immediate locality.—Observed station is on sand and grass land about 1 foot above high water and 3 yards north of straight line connecting two round points. It is about 13 yards northwest of the lower of these two points and 9 yards east of upper point. A creek 3 feet wide has its mouth about 19 yards east by south of the station. There are no permanent objects near station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.	°	′	″		
"Prince" (N. 83° 00′ W.)	0	00	00	.....	¾ mile.
Near end of corner peak of roof of large house on hill	25	02	..	.....	1¾ miles.
Near end of peak of wharf-house roof	77	46	..	.....	¼ mile.
Right chimney of house	183	32	..	.....	⅛ mile.
Right chimney of Gourley house	253	58	..	.....	2 miles.
Canning-house stack	277	22	00	.....	2 miles.
"Catholic Church Cross"	281	35	30	.....	2 miles.
Chimney of small house	308	52	..	.....	1 mile.
Right outside chimney of old house	328	43	..	.....	1¾ miles.
Right outside chimney of old house	343	05	..	.....	1¾ miles.

FODDER.

General locality.—Western shore of Patuxent River on the southern side of the mouth of Swanson Creek, about 1 mile west-southwest of Leitch Wharf and three-fourths of a mile west-northwest of Point Judith (locally known as Teague Point). (See chart No. 19.)

Immediate locality.—Observed station is on the edge of cultivated land about 10 feet above high-water mark, 4 yards west of edge of bank, and 9 yards north of another edge. Cement monument marking reference station is 15.21 meters S 60° 52′ W of observed station.

Marks.—Observed station is center point of triangle on standard cement monument with a top 9 inches square and 8 inches above surface of ground. Reference station is center point of triangle on standard cement monument with a top about 8 inches square and 5 inches above surface of ground.

References.—

	°	′	″		
"Prince" (N. 25° 00′ E.)	0	00	00	.....	½ mile.
Near peak of large house on bluff	17	55	..	.....	2 miles.
Right corner of house	24	08	..	.....	1¾ miles.
Near peak of Leitch Wharf house	35	11	..	.....	1¼ miles.
Left peak of Leitch house	48	37	..	.....	1¼ miles.
Front peak of house at Buena Vista	75	00	..	.....	1¼ miles.
Chimney outside left end of house on hill	87	16	..	.....	2 miles.
Near peak of small house	101	33	..	.....	⅜ mile.
Large chimney on small house	174	43	..	.....	1 mile.
Left side of left chimney outside Bowling house	211	47	..	.....	¾ mile.
REFERENCE STATION	215	52	30	.....	15.21 meters.
Left corner of house on top of hill	318	27	..	.....	1 mile.

BUENA.

General locality.—Eastern shore of Patuxent River, about 1¾ miles northeast of Benedict, at place known as Buena Vista. (See chart No. 19).

Immediate locality.—Observed station is in a field on land adjoining house owned by S. V. Smith and occupied by Dr. Huggins. It is about 10 feet above high water, 8 yards east of edge of bank, and 12 yards south of a rail fence. Cement monument marking reference station is 11.11 meters N. 5° 42′ E. of observed station and near fence.

Marks.—Observed station is nail in stub with top 2 inches above ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Hallowing" (S. 27° 22′ W.)	0	00	00	.....	1½ miles.
Center of red roof on square house near Benedict	18	05	..	.....	2 miles.
Canning-house stack	21	30	..	.....	1¾ miles.
"Catholic Church Cross"	29	04	10	.....	1¾ miles.
Nail in blaze in locust tree (4 inches diameter)	31	48	40	.....	8.58 meters.
Left chimney of old house	66	15	..	.....	3 miles.
Left chimney of old house	72	52	..	.....	3 miles.
Nail in blaze on cherry tree (2 inches diameter)	99	05	..	.....	9.70 meters.
Peak of roof of large house	99	15	..	.....	4 miles.
Chimney of house near Leitch Wharf	108	52	..	.....	1 mile.
Nail in blaze on fence post	143	33	50	.....	11.18 meters.
REFERENCE STATION	158	20	20	.....	11.11 meters.
Near corner of house	159	44	..	.....	25 yards.
Cherry tree on fence line (15 inches diameter)	221	25	..	.....	35 yards.
Double apple tree (30 inches diameter)	290	54	..	.....	59 yards.

TEAGUE.

General locality.—Western shore of Patuxent River, on point on southern side of entrance to Swanson Creek, locally known as Teague Point, and given on chart as Point Judith. (See chart No. 19.)

Immediate locality.—Observed station is on gravel and grass land about 3 feet above high water, about 11 yards from south side, 16 yards from north-northeast side, and 75 yards west by north of extreme end of point. Bushes stand between station and north side of point. There are no permanent reference objects near station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Buena" (N. 85° 24′ E.)	0	00	00	1½ miles.
Tangent of Teague Point	20	00	..	75 yards.
Near corner of right chimney of Gourley house, near Hallowing Point	65	45	..	1¼ miles.
Canning-house stack	106	18	00	1¼ miles.
Near end of peak of hotel	108	12	..	1¼ miles.
Left one of two ivy-covered chimneys	110	25	..	1 mile.
"Catholic Church Cross"	114	11	10	1 mile.
Chimney on Slye House	130	30	..	2 miles.
Left chimney of house on hill	144	57	..	2 miles.
Tangent of high-water mark	168	00	..	75 yards.
Near end of peak of roof	223	41	..	1 mile.
Chimney on large house on hill	243	20	..	3 miles.
Left chimney on house	301	17	..	1 mile.
Near end of peak of roof on store at Buena Vista	355	59	..	1¼ miles.

CATHOLIC CHURCH CROSS (BENEDICT).

General locality.—Western shore of upper Patuxent River, in the town of Benedict. (See chart No. 19.)

Immediate locality.—Observed station is on Catholic Church, located on the main street of the town of Benedict, about one-fourth mile from the wharf.

Marks.—Observed station is center point of cross on church.

References.—None necessary.

CITY.

General locality.—Western shore of Patuxent River, on Town Point, about one-fourth mile north-northeast of Benedict steamboat wharf. (See chart No. 19.)

Immediate locality.—Observed station is on gravel and shell point, about 4 feet above high water, 12 yards northwest of the shore, 63 yards west-southwest of a shanty, about 100 yards west-southwest of extreme end of point, and 11 yards southeast of a slough. There are no premanent reference objects near station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Hallowing" (S. 51° 21′ E.)	0	00	00	½ mile.
Windmill near Sheridan Point	21	39	..	3½ miles.
Two middle chimneys at Dowells	21	39	..	3½ miles.
Left tangent of peak of wharf-house roof	81	34	..	¼ mile.
Center of roof of square house	84	36	..	½ mile.
Canning-house stack	95	22	..	¼ mile.
Nearest ivy-covered chimney of old house	130	14	..	⅛ mile.
"Catholic Church Cross"	142	58	50	¼ mile.
Left square chimney of house	245	42	..	1¾ miles.
Near end of peak of roof of Huggins house	280	54	..	1½ miles.
Near corner of shanty	300	44	..	63 yards.
Right chimney of Gourley house	339	20	..	¾ mile.
Chimney of old building behind wharf	352	01	..	¾ mile.

HALLOWING.

General locality.—Eastern shore of Patuxent River on point opposite Benedict known locally as Holland Point, but given on charts as Hallowing Point. (See chart No. 19.)

Immediate locality.—Observed station is on a rounded gravel and grass point about 250 yards south of wharf on Holland Point, about 2 feet above high water, 10 yards north of shore, 8 yards east of shore, and 15 yards outside of a group of locust trees, sugar-berry trees, and bushes.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"City" (N. 51° 21′ W.)	0	00	00	¾ mile.
Left end of peak of roof of wharf house on Holland Point	23	15	..	250 yards.
Chimney of store at Buena Vista	77	27	..	1¾ miles.
Nail in blaze in nearest one of group of four sugar-berry trees (each 8 inches diameter)	92	24	..	12.88 meters.
Nail in blaze in sugar-berry tree (10 inches diameter)	109	58	50	15.74 meters.
Nail in blaze in locust tree (4 inches diameter)	167	55	40	11.90 meters.
Smokepipe on Trent Hall Wharf building	227	35	..	2¼ miles.
Outside chimney of detached house at Sothorons	309	54	..	1½ miles.
Center of roof on square house	314	15	..	¾ mile.
Canning-house stack	333	16	..	½ mile.
"Catholic Church Cross"	347	44	20	¾ mile.

INDIAN.

General locality.—Western shore of Patuxent River on north side of entrance to Indian Creek and about one-fourth mile below Benedict steamboat wharf. (See chart No. 19.)

Immediate locality.—Observed station is about 3 feet above high water, 7 yards west of shore, 16 yards northeast of a fence and a line of trees, 13 yards southwest of a lone locust tree, about 250 yards to the south-southeast of a large square house, and 125 yards east-northeast of another house.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Sothoron" (S. 23° 11′ E.)	0	00	00	1 mile.
Nail in blaze in locust tree near fence (5 inches diameter)	33	48	50	15.57 meters.
Nail in blaze in middle branch of locust tree (6 inches diameter)	66	24	50	19.13 meters.
Square chimney on old house	137	23	..	1¼ miles.
Right chimney of square house	188	30	..	⅛ mile.
Near end of peak of roof of hotel	206	26	..	¼ mile.
Canning-house stack	213	22	10	¼ mile.
Right tangent of Benedict Wharf	228	10	..	½ mile.
Chimney of house near "Buena Vista"	245	58	..	2¼ miles.
Chimney of Gourley house	270	28	..	1 mile.
Windmill at Dowell's on Sheridan Point	344	48	..	4¼ miles.
Left of right chimney on Dowell house	344	48	..	4¼ miles.
Nail in blaze in left branch of locust tree (5 inches diameter)	225	28	..	12.90 meters.

DWARF.

General locality.—Eastern shore of Patuxent River about 2 miles north-northwest of Sheridan Point and about 1½ miles southeast of Benedict, on a point of land opposite the mouth of Indian Creek. (See chart No. 19.)

Immediate locality.—Observed station is on sand and grass land about 1 foot above high-water mark, 6 yards northeast from extreme end of point, 4 yards east of one edge of shore and 6 yards north of another edge of shore. Point on which station is located has a sugar-berry tree, several small locust trees and water bushes, and a pond behind bushes and trees about 100 yards to the east.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Sothoron" (S. 42° 05′ W.)	0	00	00	¾ mile.
Nearest corner of top of nearest chimney on tenant house	80	31	..	2 miles.
Center of roof of square house	83	16	..	1 mile.
Nail in blaze in locust tree (4 inches diameter)	93	38	30	4.22 meters.
Canning-house stack	95	03	33	1 1/4 miles.
"Catholic Church Cross"	99	03	10	1¼ miles.
Left tangent of wharf	124	19	..	¾ mile.
Nail in sugar-berry tree (10 inches diameter)	152	38	30	8.94 meters.
Nail in blaze in locust tree (3 inches diameter)	196	22	20	2.68 meters.
Chimney on small house	258	48	..	2 miles.
Left point of peak of roof of Dowell's	287	30	..	2¼ miles.
Left end of peak of roof of Trent Hall Wharf	315	35	..	1½ miles.
Middle cupola on stable	321	12	20	1½ miles.
Right pillar on Sothoron house porch	359	21	..	1 mile.

SOTHORON.

General locality.—Western shore of Patuxent River on Long Point between entrances to Indian and Trent Hall creeks. (See chart No. 19.)

Immediate locality.—Observed station is on sand and grass lowland about 1 foot above high-water mark among cedar trees, about 24 yards west by north of extreme end of point, 12 yards north of one edge of shore and 30 yards southwest of another edge of shore.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Hallowing" (N. 13° 51′ E.)	0	00	00	1¼ miles.
Nearest chimney on Gourley house	3	55	..	1¼ miles.
Nail in blaze in locust tree (4 inches diameter)	30	49	..	3.35 meters.
Left end of peak of roof of Dowell house	120	35	..	2¼ miles.
Middle cupola on Trent Hall stable	150	25	00	1¼ miles.
Point of middle attic window on John Bullinger house	187	42	..	1 mile.
Left pillar of porch of Sothoron house	206	23	..	¼ mile.
Nail in blaze in cedar tree (12 inches diameter)	242	51	50	8.12 meters.
Near corner of nearest chimney on Slye house	291	05	20	2 miles.
Nail in blaze in locust tree (4 inches diameter)	302	29	40	10.83 meters.
Right one of two outside chimneys on old house on hill on property of A. B. Slye	307	31	..	2 miles.
Center of roof on square house	323	39	..	1 mile.
Nail in blaze in locust tree (6 inches diameter)	350	24	10	12.81 meters.

BUZZ.

General locality.—Northeast shore of Patuxent River on southwest side of Buzzards Island near mouth of Buzzards Island Creek. (See chart No. 19.)

Immediate locality.—Observed station is on marsh, clay, and grass land on wooded island about 2 feet above high water, 5 yards northeast of river shore and 40 yards northwest of extreme point of island. Cement monument marking reference station is 8.97 meters N. 42° 23′ E. of observed station.

Marks.—Observed station is nail in stub with top flush with ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Morsel" (S. 25° 23′ E.)	0	00	00	¾ mile.
Smoke pipe on roof of storehouse	39	11	..	2 miles.
Near corner of near chimney	40	36	..	2 miles.
Chimney of Trent Hall	50	48	..	1¾ miles.
Nearest of three cupolas on stable	54	36	50	1¼ miles.
Left piazza post at Sothorons	102	41	..	1¾ miles.
Center of roof of square house	155	15	..	1¾ miles.
"Catholic Church Cross"	164	56	..	2 miles.
Nail in blaze in oak tree (18 inches diameter)	172	14	..	4.55 meters.
Nail in blaze in oak tree (18 inches diameter)	198	36	40	13.16 meters.
Nail in blaze in oak tree (24 inches diameter)	235	08	30	9.62 meters.
REFERENCE STATION	252	45	45	8.97 meters.
Nail in blaze in pine tree (5 inches diameter)	255	43	..	6.52 meters.
Chimney on house across creek	313	23	..	¼ mile.

BILLIARD.

General locality.—Southwest shore of Patuxent River about one-fourth of a mile southeast of entrance to Trent Hall Creek. (See chart No. 19.)

Immediate locality.—Observed station is on marsh land about 1 foot above high-water mark, 6 yards west of shore, 70 yards north of curve in shore and about 100 to 150 yards north to northwest of a fence which runs to water's edge. No permanent reference objects near station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Trent" (S. 32° 53′ E.)	0	00	00	⅜ mile.
Middle cupola on Trent Hall stable	16	36	..	¼ mile.
Chimney on Trent Hall	18	41	..	½ mile.
Two trees	31	47	..	200 yards.
Tangent of curve in water line	33	00	..	71 yards.
Chimney of 2½-story house	81	59	..	2 miles.
Right corner of Sothoron house	162	34	..	¾ mile.
Near corner of chimney on Slye house	171	09	..	2 miles.
Right tangent of wharf	213	11	..	2 miles.
Middle of three chimneys on Gourley house	228	53	..	2 miles.
Chimney on house among trees	293	41	..	1½ miles.
Nearest end of peak roof of Dowell house at Dukes Wharf	333	42	..	1¾ miles.
Right tangent of Sheridan Point	341	34	..	1½ miles.
Left tangent Trent Hall Wharf	348	49	..	⅜ mile.
Smoke pipe on house at land end of Trent Hall Wharf	356	53	..	⅜ mile.

MORSEL.

General locality.—Northeast shore of Patuxent River about 1 mile north by west of Sheridan Point. (See chart No. 19.)

Immediate locality.—Observed station is in a wheat field on a cliff about 60 feet above high water, about 5 yards northeast of edge of bank, 110 yards north northwest of rail fence at woods, 103 yards west southwest of woods, and 167 yards west northwest of corner of field at creek and woods. Trees grow out of face of cliff below station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Sheridan" (S. 5° 27′ E.)	0	00	00	⅞ mile.
Near corner of near chimney on brick end of Dowell house	37	12	..	2 miles.
Chimney beyond weeping willow at Trent Hall	62	58	..	1 mile.
Nearest chimney on Slye house	128	11	..	3 miles.
"Catholic Church Cross"	148	44	00	2¾ miles.
Chimney on house with tin roof ell	172	17	..	1 mile.
Oak tree near creek (4 feet diameter)	297	27	..	167 yards.
Large white-oak tree	330	50	..	110 yards.

TRENT.

General locality.—Southwest shore of Patuxent River on White Point about 50 yards west of Trent Hall Wharf. (See chart No. 19.)

Immediate locality.—Observed station is 1 foot above high-water mark on sand and grass land between river and marsh, about 47 yards west of small house on land end of Trent Hall Wharf, about 64 yards northwest of extreme end of White Point, 5 yards southwest of high-water mark, about 428 yards north of Trent Hall and 105 yards south by east of mouth of creek. Cement monument marking reference station is 17.18 meters S. 69° 40′ W. of observed station.

Marks.—Observed station is nail in stub flush with ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Sheridan" (S. 57° 31′ E.)	0	00	00	1⅜ miles.
Tangent of point	32	17	..	½ mile.
Large lone tree	50	15	..	½ mile.
Right corner of Trent Hall	74	08	..	428 yards.
Right cupola of three on Trent Hall stable	99	40	..	300 yards.
Large lone tree	113	51	..	150 yards.
REFERENCE STATION	127	10	30	17.18 meters.
"Catholic Church Cross"	219	22	20	2¾ miles.
Right end of peak of roof of Holland Point Wharf	233	05	..	2¼ miles.
Right chimney of smaller of two houses among trees	284	01	..	2 miles.
Right chimney of house	300	35	..	5½ miles.
Right corner of shanty	300	36	..	47 yards.

COLLINS.

General locality.—Southwest shore of Patuxent River about one-fourth of a mile northwest of entrance to Washington Creek on point opposite Sheridan Point. (See chart No. 19.)

Immediate locality.—Observed station is on marsh land about 1 foot above high-water mark, 16 yards west of shore, 20 yards northwest of shore, 21 yards southwest of shore, 300 yards northeast of a tall lone tree, and 300 yards southeast of house known as Trent Hall.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Sheridan" (S. 80° 59′ E.)	0	00	00	.....	¾ mile.
Left end of peak of roof of De La Brooke Pier.	52	12	..	.....	2¼ miles.
Right side of right chimney of large painted brick house	60	23	..	.....	2¼ miles.
Near corner of Thomas house (Cremona)	73	22	..	.....	1 mile.
Smoke pipe in chimney on store	98	28	..	.....	½ mile.
Large lone tree	129	07	..	.....	300 yards.
Small lone tree	175	10	..	.....	130 yards.
Near corner of Trent Hall Wharf house	244	37	..	.....	½ mile.
Chimney on end of roof of house among trees.	287	41	..	.....	2¾ miles.
Left corner of left chimney of Dowell house	354	11	..	.....	1 mile.

SHERIDAN.

General locality.—Northeast shore of Patuxent River on Sheridan Point. (See chart No. 19.)

Immediate locality.—Observed station is on sand and grass point near edge of the grass, about 2 feet above high-water mark, 6 yards east of extreme edge of grass on point, 8 yards north of grass edge and 7 yards south of grass edge. Cement monument marking reference station is 14.13 meters N. 49° 56′ E. of observed station.

Marks.—Observed station is nail in stub with top 6 inches above ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Kitt" (S. 66° 05′ E.)	0	00	00	.....	1¾ miles.
Right tangent of brick house	10	41	..	.....	6 miles.
Left end of peak of roof of De La Brooke Pier.	56	13	..	.....	1¾ miles.
Left corner of left chimney of Thomas house (Cremona)	102	38	..	.....	1¼ miles.
Smoke pipe on several gable house	124	25	..	.....	1¼ miles.
Right tangent of Trent Hall Wharf	192	00	..	.....	1 mile.
Catholic Church at Benedict	216	56	..	.....	3½ miles.
REFERENCE STATION	296	01	00	.....	14.13 meters.
Near chimney of Dowell house	325	23	..	.....	¼ mile.

CREMONA.

General locality.—Southwest shore of Patuxent River about halfway between Cremona and Persimmon creeks. (See chart No. 19.)

Immediate locality.—Observed station is in orchard on farm known as Cremona, about 6 feet above high-water mark, 10 yards south of edge of river bank, 7 yards south of rail fence which runs west and east to dooryard fence, 36 yards east of rail fence of cornfield, 75 yards north of rail fence at cornfield, and 53 yards west of picket fence. Several mountain dwarf cherry trees stand between fence and river-bank edge.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Kitt" (N. 84° 13′ E.)	0	00	00	.....	2 miles.
Near end of peak of roof of Young Hance house	16	26	..	.....	3 miles.
Nail in blaze in apple tree (24 inches diameter).	37	38	20	.....	24.55 meters.
Nail in blaze in apple tree (16 inches diameter)	62	43	30	.....	13.12 meters.
Nail in blaze in apple tree (15 inches diameter)	100	33	30	.....	16.11 meters.
Corner of field	181	55	..	.....	87 yards.
Corner of field	233	32	..	.....	38 yards.

KITT.

General locality.—Northeast shore of Patuxent River on Kitts Marsh Point, which is about halfway between Battle Creek and Sheridan Point. (See chart No. 19.)

Immediate locality.—Observed station is on the point of a long marsh neck, about 15 yards northeast of extreme end of point, 13 yards north of edge of marsh, and 13 yards east of edge of marsh. There are no permanent reference objects near station. Cement monument marking reference station is 15.84 meters N. 10° 23′ E. of observed station.

Marks.—Observed station is nail in stub flush with surface of marsh. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Battle" (S. 39° 02′ E.)	0	00	00	1⅛ miles.
Right tangent of Long Marsh	7	53	..	2 miles.
Near end of peak of roof of De La Brooke Pier	73	52	..	1½ miles.
Near corner of near chimney of Thomas house	83	31	..	1¾ miles.
Large house	167	38	..	1 mile.
Square chimney of large house	185	23	..	¼ mile.
REFERENCE STATION	229	24	40	15.84 meters.
Left chimney of house	243	56	..	2½ miles.
Hance house	299	13	..	2 miles.
Right chimney of house among trees on hill	327	24	..	4 miles.
Left chimney of house	336	59	..	4 miles.

OPPKIT.

General locality.—Southwest shore of Patuxent River on Marsh Point. (See chart No. 19.)

Immediate locality.—Observed station is on sand and grass ridge between sand beach and marsh, about 1 foot above high water, 3 yards southwest of high-water mark, 60 yards west-northwest of one point of the beach, 64 yards south of another point of the beach, and 85 yards north-northwest of an oyster watch house on piles. There are no permanent reference objects near station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Kitt" (N. 56° 31′ E.)	0	00	00	1½ miles.
Near end of peak of roof of Williams Wharf house	36	46	..	2¼ miles.
Left corner of watch house	87	27	..	85 yards.
Left point of peak of roof of De La Brooke Pier	94	09	..	1 mile.
Right corner of right chimney of brick house	126	42	..	½ mile.
Chimney on house near trees	232	43		¼ mile.
Highest chimney on Cremona House	254	49		⅞ mile.
Point of roof of Dukes Wharf	310	09		1½ miles.
Chimney on house with ell	330	49		1½ miles.
Large square brick chimney on house with ell	334	08	..	1½ miles.
Nearest chimney of pair on end of house	353	00	..	1½ miles.

BATTLE.

General locality.—Northeast shore of Patuxent River on west side of entrance to Battle Creek on Prison Point. (See chart No. 19.)

Immediate locality.—Observed station is on sand and grass land between marsh and river, about 1 foot above high water, 85 yards south of a field, 6 yards northeast of shore, 20 yards southwest of edge of a pool, 100 yards southwest by west of a lone tree, 200 yards west of a small house among trees, and 100 yards west to northwest of several dwarf trees between house and beach.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Forr" (S. 3° 17′ E.)	0	00	00	2¼ miles.
Chimney on middle of roof of house	1	52	..	2¼ miles.
Left corner of left chimney of very large house	8	36	..	2¼ miles.
Right chimney of large 2½-story brick house	82	00	..	1½ miles.
Tangent to Sheridan Point	129	20	..	2½ miles.
Right end of peak of roof of 2½-story house	139	50	..	2¼ miles.
Chimney of 2½-story house on hill	155	19	..	2 miles.
Lone tree	254	41	..	80 yards.
Outside chimney of house on hill	264	11	..	3 miles.
House among trees	282	15	..	100 yards.
Tangent of Long Marsh	341	45	..	1½ miles.
Left chimney of 2½-story house	348	38	..	3 miles.
Chimney of 2½-story house	352	57	..	2 miles.
Right tangent of Forrest Wharf	357	59	..	1½ miles.

PHOTO.

General locality.—Northeast side of Patuxent River on east side of entrance to Jacks Bay. (See chart No. 19.)

Immediate locality.—Observed station is in a cultivated field, about 150 yards north-northeast of a marshy point, 10 feet above high-water mark, 49 yards east of shore, 110 yards north-northwest of shore, and 68 yards northeast of right end of clump of trees at edge of field and beginning of marsh point.

Marks.—Observed station is nail in stub with top 2 inches above surface of ground. Subsurface mark is center point of triangle on standard cement monument with top 12 inches below surface.

References.—

	°	′	″	
"Slim" (S. 52° 03′ E.)	0	00	00	1⅛ miles.
Chimney on old house	51	21	..	2 miles.
Cedar trees	60	00	..	85 yards.
Left corner of house	73	03	..	2 miles.
Smoke pipe on house behind trees	78	08	00	2 miles.
Left tangent of Forrest Wharf	81	00	20	2¼ miles.
Tree	90	10	..	70 yards.
Watch house on point	118	52	..	¼ mile.
Right chimney on 2½-story brick house	150	37	..	5 miles
Locust tree (20 inches diameter)	241	23	..	135 yards.
Left chimney of house	222	45	..	½ mile.
Willow tree	331	27	..	140 yards.

FIGHT.

General locality.—Southwest shore of Patuxent River opposite mouth of Battle Creek on a prominent low point. (See chart No. 19.)

Immediate locality.—Observed station is on land known as Horsehead Marsh, about 1 foot above ordinary high-water mark, 12 yards south-southwest of extreme end of point, 15 yards west-northwest of shore at small creek, 40 yards northeast of woods, and 110 yards east-southeast of a bluff 50 feet high.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Battle" (N. 50° 45′ E.)	0	00	00	1¾ miles.
Outside chimney in center of group of buildings	13	30	..	2¼ miles.
Left chimney of house on top of hill	23	44	..	3¾ miles.
Left tangent of Forrest Wharf	82	06	10	2 miles.
Near end of peak of roof of 2½-story building	83	47	..	1¾ miles.
Large square chimney on large building	91	19	..	1 mile.
Left corner of left chimney of large house	262	40	..	1 mile.
Dowells windmill	300	28	..	2½ miles.
Left chimney on small house adjoining large house	321	41	..	2¼ miles.
Chimney of small house	325	38	..	2 miles.

SLIM.

General locality.—Northeast shore of Patuxent River about half way between Battle and Island creeks and one-half mile west-northwest of Parkers Wharf. (See chart No. 19.)

Immediate locality.—Observed station is in a field on a sand bluff, about 40 feet above high water, 13 yards northeast of edge of bluff, 90 yards southeast of a point of woods at top of a ravine, about 180 yards southwest of another point of woods, 150 yards west-northwest of a rail fence, and 71 yards northwest by west of a large sycamore tree.

Marks.—Observed station is nail in round chestnut stub with top about 6 inches above the surface of the ground. Subsurface mark is center point of triangle on standard cement monument with top 10 inches below the surface of the ground.

References.—	°	′	″	
"Island" (S. 59° 31′ E.)	0	00	00	2½ miles.
Cedar in field	2	38	50	200 yards.
Large sycamore tree	29	20	..	71 yards.
Near end of peak of roof of Jones Wharf house	53	27	..	2½ miles.
Chimney on middle of roof of a long house	109	34	..	1¾ miles.
Outside chimney of house near Forrest Wharf	125	26	..	2 miles.
Nearest chimney on Thomas large brick house	166	16	..	4 miles.
Tangent of Long Point marsh	171	24	..	1½ miles.
Left tree on point	191	06	..	90 yards.
Two high trees close together near right edge of point of woods	284	27	..	189 yards.
Large walnut tree	298	20	..	¼ mile.
Near end of peak of roof of barn	304	23	..	½ mile.

FORR.

General locality.—Southwest shore of Patuxent River just below Forrest Wharf. (See chart No. 19.)

Immediate locality.—Observed station is about 1 foot above high-water mark on sand and grass land, 7 yards south from extreme high-water mark, 45 yards southeast of land end of Forrest Wharf, 70 yards east by south of an old 2½-story building, and 65 yards northeast of a saloon.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Cole" (S. 50° 07′ E.)	0	00	00	1⅜ miles.
Near corner of house on hillside	9	59	..	180 yards.
Near corner of saloon	101	52	..	65 yards.
Outside chimney on house on hill	115	22	..	⅛ mile.
Curve in road up hill	131	25	..	200 yards.
West corner of old 2½-story building	139	52	..	70 yards.
Land end of wharf	169	15	..	45 yards.
Windmill	182	59	40	2¾ miles.
Left corner of left chimney brick house	183	05	..	3 miles.
Right tangent of Dukes Wharf	187	07	..	4¼ miles.
Near end of peak of roof of Forrest Wharf house	257	17	..	⅛ mile.
Chimney of house	272	35	..	3 or 4 miles.
Right tangent of roof	304	23	..	2¼ miles.
Tangent of trees	347	46	..	3 miles.

SWEEP.

General locality.—Northeast shore of Patuxent River on northwest side of mouth of Island Creek near inner end of neck of land joining Broome Island to the mainland. (See chart No. 19.)

Immediate locality.—Observed station is in a field about 4 feet above high water, 4 feet northwest of a wire fence, 24 yards south by west of a stable, 60 yards south-southwest of a house, and 100 yards south-southeast of a pine grove. Cement monument marking reference station is 21.70 meters N. 59° 39′ E. of station and near fence line.

Marks.—Observed station is the center of an oblong wooden box 4 inches square with top 4 inches above the ground. Reference station is center point of triangle on a standard cement monument.

References.—	°	′	″	
"Bars" (S. 15° 10′ E.)	0	00	00	2 miles.
Right chimney of house	14	48	..	3 miles.
Peak of roof of Gadden house	25	34	20	1⅝ miles.
Tangent of Broome Island Point	43	21	..	½ mile.
Chimney on house on hill	51	57	..	3 miles.
Gilt ball on lightning rod	62	03	..	⅝ mile.
Chimney on house	96	06	..	¼ mile.
Cut in woods	135	40	..	1⅞ miles.
Chimney of house	186	34	..	150 yards.
Tile smoke pipe on house	203	24	..	140 yards.
Near corner of house	230	35	..	60 yards.
Near corner of barn	237	32	..	24 yards.
REFERENCE STATION	254	49	20	21.70 meters.
Right chimney of four on house	279	25	..	¼ mile.
Top of tower of house	301	54	..	2¼ miles.

ISLAND.

General locality.—Northeast shore of Patuxent River on the extreme southeast point of land about one-half mile to the east of the mouth of Island Creek. (See chart No. 19.)

Immediate locality.—Observed station is on a marshy point at about extreme high-water mark, 30 yards north of extreme end of point, 25 yards east of one side of point, and 20 yards west of another side of point. Old tile pipe used as a reference station is 16.98 meters N. 12° 39′ E. and cement monument marking new reference station is 30.93 meters N. 2° 40′ E. of observed station.

Marks.—Observed station is nail in stub with top flush with marsh. Old reference station is center of 4-inch tile pipe set in cement with top projecting about 10 inches above ground. New reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Wheat" (S. 53° 15′ E.)	0	00	00	.....	2 miles.
Left end of peak of roof of Sotterly Wharf house	46	07	..	.....	2 miles.
Pinnacle of large house in trees	60	49	..	.....	2 miles.
Left chimney of large house back on hill	67	54	..	.....	2 miles.
Chimney on middle of large 2½-story house	109	59	..	.....	1½ miles.
Middle of railing on top of roof of 2½-story house	120	00	..	.....	3 miles.
Chimney of Broome house	143	41	..	.....	¾ mile.
Weather vane on Broome house	148	33	30	.....	¾ mile.
Right chimney of house	178	21	..	.....	3 miles.
Right chimney of house	193	27	..	.....	2 miles.
REFERENCE STATION (cement monument)	235	55	00	.....	30.93 meters.
REFERENCE STATION (tile pipe)	245	54	20	.....	16.98 meters.
Smoke pipe of watchhouse	333	29	..	.....	1 mile.
Tower of Peterson house	356	08	..	.....	2 miles.

PEAK.

General locality.—Northeast shore of Patuxent River, about in middle of inner shore of a large bay between St. Leonard and Island creeks. (See chart No. 19.)

Immediate locality.—Observed station is on Parran house, located near shore at extreme end of a road leading to Wallville.

Marks.—Observed station is ball on tip of tower.

References.—None necessary.

COLE.

General locality.—Southwest shore of Patuxent River, about one-fourth mile northwest of Cole Creek. (See chart No. 19.)

Immediate locality.—Observed station is about 35 feet above high-water mark on a grass peninsula, 3 yards south-southwest of edge of a bluff which is washing rapidly, 8 yards west of extreme edge of bluff, where it turns inland and is not washing, but slopes gradually to the water, 8 yards north of another edge of the bluff, 10 yards northwest of trees on slope of bank, and 20 yards west of a cherry tree 2 feet in diameter. Cement monument marking reference station is 13.53 meters S. 83° 10′ W. of observed station and nearly on line with large cherry tree.

Marks.—Observed station is nail in stub with top flush with ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Hutchins" (S. 67° 12′ E.)	0	00	00	.....	2 miles.
Left end of peak of roof on Jones Wharf house	6	25	..	.....	1¼ miles.
Nail in blaze on limb of oak tree (4 inches diameter)	22	05	..	.....	10.80 meters.
Screw in blaze in crotch of oak tree (15 inches diameter at base)	38	18	..	.....	12.67 meters.
Nail in blaze of cedar tree (6 inches diameter)	63	40	40	.....	8.43 meters.
Nail in blaze on cherry tree (24 inches diameter)	147	11	..	.....	18.65 meters.
REFERENCE STATION	150	22	00	.....	13.53 meters.
Right chimney of house	179	11	..	.....	¼ mile.
Right end of peak of roof of Forrest Wharf house	202	21	..	.....	1½ mile.
Right end of house	251	05	..	.....	3 miles.
Left end of peak of house	280	23	..	.....	3 miles.
Gilt ball on Broome house	321	30	30	.....	2 miles.
Right tangent of Broome Island	334	17	..	.....	1¾ miles.

HUTCHINS.

General locality.—Southwest shore of Patuxent River opposite Broome Island on Captain Point, about one-fourth mile northwest of mouth of Cole Creek. (See chart No. 19.)

Immediate locality.—Observed station is in garden on point of a bluff 50 feet high on Hutchins estate near house occupied by Mr. Gadden, about 6 yards south by east of extreme point of bluff, 2 yards southwest of edge of bluff, 4 yards southeast of edge of bluff, 30 yards north by west from house, 30 yards west of a wire fence running north and south, and 15 yards east of another north-and-south wire fence. Cement monument marking reference station is 7.57 meters S. 59° 39′ W. of observed station.

Marks.—Observed station is nail in a stub with top flush with ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Bars" (S. 68° 07′ E.)	0	00	00	⅞ mile.
Left corner of extension of Gadden house	58	17	..	30.90 meters.
Right front corner of Gadden house	84	56	..	28.57 meters.
Near corner of well house	102	15	..	30.44 meters.
Near corner of shed	119	43	..	45 yards.
REFERENCE STATION	127	46	..	7.57 meters.
Nail in blaze in apple tree (22 inches diameter)	148	06	20	9.35 meters.
Right tangent of Parkers Wharf	228	12	..	2½ miles.
Gilt ball on Broome house on Broome Island	249	55	..	1½ miles.
Near end of peak of house	263	17	..	4 miles.
Tip of tower on Peterson house	332	52	..	2¾ miles.

WHEAT.

General locality.—Northeast shore of Patuxent River on westerly side of mouth of St. Leonard Creek. (See charts Nos. 19 and 20.)

Immediate locality.—Observed station is on a bluff about 40 feet above high water, about 5 yards west of edge of bank, 7 yards south of another edge, and three-eighths mile west of Peterson house. Cement monument marking reference station is 12.80 meters N. 61° 55′ E. of observed station and on line to Peterson house.

Marks.—Observed station is center of a 4-inch tile pipe set in cement with top projecting about 4 inches above ground. Reference station is center point of triangle on standard cement monument with top 6 inches below the surface.

References.—

	°	′	″	
"Stump" (S. 36° 23′ E.)	0	00	00	2¼ miles.
Left chimney of Judge Crane house	10	07	..	4¾ miles.
Near end of peak of roof of Marburger house	15	05	..	4¼ miles.
Left end of roof of St. Cuthbert Wharf	24	09	..	2¾ miles.
Chimney on roof of house	60	05	..	1½ miles.
Chimney on store at Sotterly	93	41	..	1½ miles.
Left end of barn roof	193	27	..	2 miles.
REFERENCE STATION	278	17	30	12.80 meters.
Center chimney of Peterson house	281	22	..	¼ mile.
Chimney of house	298	03	..	⅛ mile.
Chimney on house on Breeden estate	340	04	..	2 miles.

MACKALL.

General locality.—Northwest shore of Patuxent River on west side of entrance to St. Leonard Creek on first point inside of Peterson Point. (See charts Nos. 19 and 20.)

Immediate locality.—Observed station is about 50 feet above high water, 9 feet northwest of edge of bluff, 7 yards northeast of bushes, and 3 yards southwest of other bushes. Cement monument marking reference station is 3.80 meters N. 35° 08′ W. of observed station.

Marks.—Observed station is the center of an oblong wooden box 4 inches square with top 3 inches above the ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Stock" (S. 34° 38′ W.)	0	00	00	.....	1¾ miles.
Peak of front gable of Bond house	0	39	10	.....	1¾ miles.
Chimney on negro house	54	31	..	.....	⅜ mile.
Chimney on Peterson house	66	25	..	.....	¼ mile.
REFERENCE STATION	110	13	50	.....	3.80 meters.
Chimney on negro house	135	49	..	.....	⅜ mile.
Chimney on ell of house on hill	153	46	..	.....	½ mile.
Chimney on small house back of Sollers Wharf	229	40	..	.....	1 mile.
Nearest outside chimney on 1½-story house	236	08	..	.....	2 miles.
Large chimney on Sollers house	237	02	..	.....	¾ mile.
Large chimney on Taylor house	285	27	..	.....	½ mile.
Front peak of Briscoe house	334	30	..	.....	2⅛ miles.

SOLLERS.

General locality.—Northeast shore of Patuxent River on east side of entrance to St. Leonard Creek. (See charts Nos. 19 and 20.)

Immediate locality.—Observed station is about 50 feet above high water, 6 feet east of edge of bank, 20 yards north-northeast of a clump of trees, 14 yards and 8 yards south-southwest of other trees, and 75 yards north-northwest of a rail fence. Cement monument marking reference station is 13.68 meters S. 44° 00′ E. of observed station with top buried 12 inches below surface.

Marks.—Observed station is the center of an oblong wooden box 5 inches square with top 3 inches above ground. Reference station is center point of triangle on standard cement monument with top 12 inches below surface.

References.—	°	′	″		
"Stock" (S. 44° 24′ W.)	0	00	00	.....	1⅝ miles.
Middle of front gable of Bond house	0	34	..	.....	1¾ miles.
Chimney of store at Sotterly Wharf	26	58	..	.....	2⅛ miles.
Near corner of outside chimney on house	27	18	..	.....	2½ miles.
Chimney on top of Gadden house	46	14	..	.....	2⅞ miles.
Near corner of top chimney on Peterson house	78	27	..	.....	½ mile.
Right end of peak of roof of Mackall house	150	16	..	.....	½ mile.
REFERENCE STATION	271	35	30	.....	13.68 meters.
Near corner of large chimney on Taylor house	372	35	..	.....	⅛ mile.
Top of front gable on Briscoe house	331	36	..	.....	1¾ miles.

BARS.

General locality.—Southwest shore of Patuxent River on Sotterly Point about one-fourth mile northwest of Sotterly Wharf. (See chart No. 19.)

Immediate locality.—Observed station is on a bluff about 30 feet above high water, 5 yards south of edge of bank at rail fence, and 2 yards east of this same fence. Cement monument marking reference station is 14.53 meters S. 9° 54′ W. of observed station and near fence line.

Marks.—Observed station is center of a 3-inch tile pipe set in cement. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Wheat" (N. 72° 06′ E.)	0	00	00	.....	1½ miles.
Chimney on middle of 2½-story house	17	29	..	.....	6 miles.
Windmill	23	23	..	.....	5 miles.
Chimney of house	41	50	..	.....	4 miles.
REFERENCE STATION	117	48	00	.....	14.53 meters.
Smoke pipe on right end of house	157	37	..	.....	¼ mile.
Tangent of point of land	250	47	..	.....	1½ miles.
Peterson house chimney	359	22	..	.....	1¾ miles.

LEND.

General locality.—Northeast shore of Patuxent River on a narrow strip of land or peninsula in mouth of Mears Creek about one-half mile southeast of St. Leonard Creek. (See charts Nos. 19 and 20.)

Immediate locality.—Observed station is in the midst of many cherry, oak, and locust trees about 15 feet above high-water mark, 15 yards east-northeast of high ground, 5 yards west of edge and 17 yards north of extreme point of top of peninsula.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Wheat" (N. 50° 51′ W.)	0	00	00	1¼ miles.
Nail in blaze in cherry tree (4 inches diameter)	118	28	30	3.58 meters.
Right chimney of house across creek	139	51	..	¼ mile.
Nail in blaze in oak tree (8 inches diameter)	229	51	..	6.68 meters.
Outside chimney on left end of Briscoe house	265	61	..	1½ miles.
Near peak of Bond house	297	57	..	1⅝ miles.
Chimney on storehouse at Sotterly	318	19	..	2¼ miles.
Near end of peak of roof of Sotterly Wharf house	319	07	..	2¼ miles.
Chimney on Gadden house	330	47	..	3¼ miles.
Nail in blaze in cherry tree (6 inches diameter)	345	24	..	3.64 meters.

STOCK.

General locality.—Southwest shore of Patuxent River about 1 mile southeast of Sotterly Point. (See chart No. 20.)

Immediate locality.—Observed station is on a bluff, about 20 feet above high water, 3 yards southwest of edge of bluff, about 50 yards east by north of front door of the house of Mr. Bond, 30 yards west-northwest of extreme end of point of bluff, 35 yards northeast of detached house, and about 43 yards east by south of yard fence at edge of bluff.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Lend" (N. 66° 48′ E.)	0	00	00	1⅝ miles.
Right chimney of house on Dickson place	1	35	..	1¾ miles.
Right chimney of old 1½-story house	19	00	..	2 miles.
Tangent of bluff	58	00	..	1 mile.
Chimney on house on point	59	03	..	1 mile.
Nail in blaze in locust tree (4 inches diameter)	99	48	30	2.18 meters.
Nearest corner of outhouse, corner farthest from house	161	29	30	34.30 meters.
Left corner of house	180	31	30	31.13 meters.
Nail in blaze in cherry tree 1 foot above ground (4 feet diameter)	183	39	30	20.58 meters.
Right corner of house	205	29	40	45.79 meters.
Locust tree (4 inches diameter)	210	31	40	8.83 meters.
End of yard fence	230	31	..	43 yards.
Tree near edge of bank (no nail or blaze)	237	39	20	34.27 meters.

STUMP.

General locality.—Northeast shore of Patuxent River about one-half mile northwest of Hellen Creek. (See chart No. 20.)

Immediate locality.—Observed station is on a bank about 20 feet above high water, 10 yards north-northeast of edge of bank at extreme end of point, about 20 yards southeast of edge of bank, and about 150 yards northwest of a clump of cedar and locust trees at edge of bank. Cement monument marking first reference station is 11.29 meters N. 61° 51′ E. of observed station with top 10 inches below surface of field. Cement monument marking second reference station is 2.62 meters N. 60° 42′ E. of observed station about on line with first reference station.

Marks.—Observed station is center of 4-inch tile pipe set in cement with top flush with ground. First reference station is center point of triangle on standard cement monument with top 10 inches below the surface of ground. Second reference station is center point of triangle on standard cement monument with top 6 inches above surface of ground.

References.—

	°	′	″	
"Wheat" (N. 36° 23′ W.)	0	00	00	2⅛ miles.
Chimney in center of house	15	09	..	¾ mile.
SECOND REFERENCE STATION	97	43	35	2.62 meters.
FIRST REFERENCE STATION	98	52	30	11.29 meters.
Apple tree	152	00	..	200 yards.
Left chimney of house	180	19	..	¾ mile.
Near end of peak of roof of Marburger house	209	27	..	2¼ miles.
Left chimney of house	269	21	..	1¼ miles.
Nail in blaze in stump (30 inches diameter)	250	49	..	5.01 meters.
Nail in blaze in tree (8 inches diameter)	352	30	..	17.52 meters.

BRISCOE.

General locality.—Southeast shore of Patuxent River about one-fourth mile northwest of St. Cuthbert Wharf. (See chart No. 20.)

Immediate locality.—Observed station is in a cultivated field, about 20 feet above high water, 80 yards southwest of trees on bank, 50 yards southeast of a creek bed, 46 yards northwest of a clump of trees, 105 yards east of a corner of fence on road, and about 300 yards northeast of another fence with woods back of it. Cement monument marking reference station is 12.52 meters N. 79° 35′ W. of observed station.

Marks.—Observed station is a nail in a stub with top flush with ground and a subsurface mark of a standard cement monument with top buried 11 inches below the surface. Reference station is center of triangle on standard cement monument with top 5 inches above surface of ground.

References.—

	°	′	″	
"Hellen" (S. 71° 37′ E.)	0	00	00	1⅝ miles.
Near corner of house	45	11	..	¾ mile.
Left end of peak of roof of barn	57	18	..	¾ mile.
Large two-forked tree	129	17	..	130 yards.
Corner of rail fence and tree	136	34	..	105 yards.
REFERENCE STATION	172	01	40	12.52 meters.
Large cherry tree other side of creek	195	00	..	68 yards.
Left chimney of house on opposite side with three dormer windows	304	54	..	1½ miles.
Cedar tree	308	59	..	80 yards.

HELLEN.

General locality.—Northeast shore of Patuxent River on east side of mouth of Hellen Creek. (See chart No. 20.)

Immediate locality.—Observed station is at high-water mark on edge of grass and bushes, about 16 yards west-southwest of a bluff 15 feet high, and about 40 yards north-northwest of bluff at edge of water. Cement monument marking reference station is 12.45 meters N. 75° 14′ E. of observed station.

Marks.—Observed station was the center of a tile pipe with a subsurface mark of a green yeast-powder bottle, but at date of publication these marks are reported to have been washed away. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Stump" (N. 25° 42′ W.)	0	00	00	.....	⅞ mile.
Left chimney of Barrett house	8	54	..	.....	¾ mile.
Nail in blaze in tree	100	01	40	.....	14.74 meters.
REFERENCE STATION	100	56	20	.....	12.45 meters.
Near end of peak of roof of Marburger house	209	54	..	.....	1½ miles.
Mouth of Cuckold Creek	261	00	..	.....	1½ miles.
Chimney of Peterson house	355	14	..	.....	3 miles.

NAT.

General locality.—Southwest shore of Patuxent River about one-half mile above mouth of Cuckold Creek. (See chart No. 20.)

Immediate locality.—Observed station is near edge of a cultivated field on a bluff of sand and gravel about 20 feet above high water, 4 feet east of edge of bluff, and 150 yards north of a rail fence. Cement monument marking reference station is 18.44 meters S. 29° 47′ W. of observed station with top 8 inches below surface of ground.

Marks.—Observed station is center of 3-inch tile pipe embedded in cement. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Hellen" (N. 69° 29′ E.)	0	00	00	.....	1¾ miles.
Near end of peak of roof of Marburger house on Point Patience	68	01	..	.....	1½ miles.
REFERENCE STATION	140	18	00	.....	18.44 meters.
Large chimney on house	281	58	..	.....	3 miles.
Right chimney of house with two gable roofs	309	01	..	.....	2 miles.

TON.

General locality.—Eastern shore of Patuxent River about 1 mile northeast of Point Patience. (See chart No. 20.)

Immediate locality.—Observed station is on a bluff about 15 feet above high water, 10 yards east from edge of bluff, 50 yards south-southwest of edge of a gully and a clump of trees, and about 220 yards west-northwest of a cherry tree 3½ feet in diameter. Cement monument marking reference station is 13.64 meters S. 62° 29′ E. of observed station.

Marks.—Observed station is a spike set in cement. Reference station is center point of triangle on standard cement monument buried below surface 10 inches.

References.—	°	′	″		
"Mill" (N. 65° 00 W.)	0	00	00	.....	1¼ miles.
Chimney on far end of Wallace house	53	28	..	.....	1¾ miles.
Chimney on middle of roof on McCorry store	60	09	..	.....	2 miles.
Near end of peak of St. Cuthbert Wharf house	62	10	..	.....	2 miles.
Near end of peak of roof of Parran oyster watch house	83	03	..	.....	5½ miles.
Chimney on Peterson house	85	39	..	.....	3¾ miles.
Cemented chimney on near end of George old house	94	59	..	.....	1 mile.
Left chimney of Costen house	117	59	..	.....	½ mile.
Nail in blaze in tree	137	35	20	.....	47.60 meters.
REFERENCE STATION	232	31	00	.....	13.64 meters.
Left chimney of Marburger house	329	11	..	.....	¾ mile.

MILL.

General locality.—Southwest shore of Patuxent River about one-half mile southeast of mouth of Cuckold Creek and one-half mile northwest of Point Patience. (See chart No. 20.)

Immediate locality.—Observed station is on a sand bluff about 20 feet above high water, 7 yards southwest of the edge of the bluff, 40 yards southeast of a fence and a line of cedar trees, and about 100 yards northwest of another fence at bottom of hill. Cement monument marking reference station is 13.76 meters S. 28° 14′ W. of observed station.

Marks.—Observed station is center point of 3-inch tile pipe embedded in cement. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Ton" (N. 64° 59′ E.)	0	00	00	1¼ miles.
Nearest chimney of Marburger house on Point Patience	39	01	..	¾ mile.
"Catholic Church Cross"	43	03	40	2 miles.
"Methodist Episcopal Church Spire"	49	23	30	2 miles.
Middle of portico of Judge Crane house	82	22	..	1 mile.
Windmill near Dent house	136	47	..	½ mile.
REFERENCE STATION	143	14	40	13.76 meters.
Chimney on house among farm buildings	293	28	40	4¼ miles.
Left chimney on house with piazza	304	02	..	2¾ miles.
End of peak of roof of 2½-story house	323	31	..	1¾ miles.
Nearest chimney of cottage	338	17	..	2 miles.
Left chimney of house	340	19	..	2 miles.

BUR.

General locality.—East shore of Patuxent River, on northwest side of Point Patience, about one-fourth mile northeast of its extreme end. (See chart No. 20.)

Immediate locality.—Observed station is on sand and grass land, about 1 foot above high water, 12 yards southeast of high-water mark on one side of point, 36 yards northwest of high-water mark on other side of point, and about 300 yards northeast of extreme end of point. Cement monument marking reference station is 12.15 meters N. 85° 20′ E. of observed station.

Marks.—Observed station is a 3-inch tile pipe set in cement with top about 1 inch above the surface of the ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Ton" (N. 37° 56′ E.)	0	00	00	1 mile.
Left chimney of Marburger house	16	08	..	¼ mile.
REFERENCE STATION	47	24	30	12.15 meters.
"Methodist Episcopal Church Spire"	75	32	10	1⅜ miles.
Middle gable of Judge Crane house	139	09	..	½ mile.
Nail in blaze in pine tree (8 inches diameter)	162	40	10	25.94 meters.
Square chimney on Dent house	228	30	..	¾ mile.
Chimney on house	268	52	..	1⅝ miles.
Left chimney of house	346	39	..	1½ miles.
Right chimney of house	358	31	..	1½ miles.

NEW.

General locality.—Northeast side of Patuxent River, about three-fourths mile east of Point Patience and about 1¼ miles northwest of Sandy Point. (See chart No. 20.)

Immediate locality.—Observed station is about 20 feet above high-water mark in the middle of a cultivated field on Strathmore farm, about 230 yards northeast of shore of Patuxent River, about 82 yards southeast of a creek, about 162 yards northwest of a small creek or ditch, 230 yards northeast of a large oak tree, and 250 yards north of another large oak tree.

Marks.—Observed station is center point of triangle on standard cement monument with top 11 inches below the surface of the ground.

References.—

	°	′	″	
"Ben" (S. 2° 10′ E.)	0	00	00	2 miles.
Chimney on flat-roof house	6	59	..	1¾ miles.
Chimney on main part of a house on Town Creek	27	11	..	1¼ miles.
Oak tree about 18 inches diameter on edge of field	43	54	..	227 yards.
Right tangent of Spencers Wharf	56	04	..	1 mile.
Corner of field	67	00	..	310 yards.
Exposed chimney on left of house	67	36	..	1½ miles.
Left chimney on house	88	57	..	1½ miles.
Corner of field	206	00	..	240 yards.
Corner of field	258	00	..	300 yards.
Silver-tipped tower on Philip Vale house	307	08	20	½ mile.
Oak at edge of field	343	35	..	300 yards.

CATHOLIC CHURCH CROSS.

General locality.—Southeast side of Patuxent River, about halfway to Back Creek and three-fourths mile northwest of Solomons Wharf. (See chart No. 20.)

Immediate locality.—Observed station is on Catholic Church, known as St. Marys Star of the Sea, located in small village of Johnstown, on mainland near Solomons Island, and about 250 yards north of causeway to Solomons Island.

Marks.—Observed station is center of cross on bell cupola.

References.—None necessary.

CABLE.

General locality.—Southwest shore of Patuxent River, on east side of entrance to Kings Creek, and about three-fourths mile west of Town Point. (See chart No. 20.)

Immediate locality.—Observed station is on pasture land near the end of high land at the beginning of a long, low peninsula which almost closes the mouth of Kings Creek, about 30 feet above high-water mark, about 20 yards south of edge of bank on river side, about 15 yards east northeast of edge of bank on creek side, 38 yards southeast of extreme edge of top of bank, and 30 yards west of a persimmon tree.

Marks.—Observed station is center point of triangle on standard cement monument buried with top 10 inches below the surface of ground.

References.—

	°	′	″	
"Bur" (N. 35° 17′ E.)	0	00	00	¾ mile.
Left chimney of Marburger house near Point Patience	3	25	..	¾ mile.
"Catholic Church Cross"	43	59	..	1¾ miles.
"Methodist Episcopal Church Spire"	52	29	..	1¾ miles.
Left chimney of Judge Crane house	55	44	..	½ mile.
Nail in blaze of tree (18 inches diameter)	179	22	20	19.24 meters.
Nail in blaze in red cedar tree (3 inches diameter)	236	25	..	16.80 meters.
Nail in blaze in persimmon tree	283	52	10	26.22 meters.
Right chimney on Fenner Lee house	284	14	..	⅜ mile.
Left chimney of house	302	24	..	½ mile.

TOWN.

General locality.—Southwestern shore of Patuxent River, on Town Point, about three-fourths mile southeast of Point Patience. (See chart No. 20.)

Immediate locality.—Observed station is about 20 feet above high-water mark, 9 yards west of edge of bluff, 3 yards south of edge of bluff, 10 yards southeast of extreme edge of high land, 3 yards south of a rail fence, and 2 yards north of cultivated land.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Back"	0	00	00	½ mile.
"Catholic Church Cross"	8	58	20	1 mile.
"Methodist Church spire"	25	41	20	¾ mile.
Cupola on Files store	29	11	..	¾ mile.
Nearest chimney on Webster house	43	06	..	1¼ miles.
Right end of roof of 2½-story building at Pearsons	67	56	..	3 miles.
Near corner of tower on Hodgdon house	93	01	..	2⅜ miles.
Chimney on old house	108	18	..	1⅜ miles.
Chimney on house	142	53	..	1 mile.
Left chimney on Lee house	227	04	..	1½ miles.
Marburger house	281	00	..	¾ mile.

CRANE.

General locality.—Southwest side of Patuxent River, on northeast side of Town Creek, about one-fourth mile southwest of Town Point. (See chart No. 20.)

Immediate locality.—Observed station is in a cultivated field on Judge Crane farm, about 8 feet above high-water mark, 58 yards east-northeast of Town Creek, 105 yards west of a fence, 115 yards west-northwest of a large cherry tree, 200 yards southeast of several detached buildings, and 20 yards east of top of ravine.

Marks.—Observed station is center point of triangle on standard cement monument with top 10 inches below ground.

References.—

	°	′	″	
"New" (N. 36° 51′ E.)	0	00	00	1 mile.
"Catholic Church Cross"	29	25	..	1¼ miles.
Stack on ice plant	37	25	..	1¼ miles.
Methodist Episcopal Church tower	42	15	..	1¼ miles.
Cherry tree (4 feet diameter)	71	26	..	115 yards.
Canning-house stack	157	27	..	¼ mile.
House on point	185	20	..	¼ mile.
Chimney on house	244	30	..	¾ mile.
Lightning rod on cupola of Judge Crane barn	277	01	30	¼ mile.
Right tangent to St. Cuthbert wharf	300	08	..	2¾ miles.
Near end of peak of roof of Marburger house	320	49	..	⅛ mile.
Middle of gateway	355	23	..	⅛ mile.
Oak tree on opposite shore of Patuxent River	359	16	50	1 mile.

METHODIST EPISCOPAL CHURCH (SOLOMONS).

General locality.—Northeastern shore of Patuxent River, on upper end of Solomons Island, about one-half mile northwest of Sandy Point. (See chart No. 20.)

Immediate locality.—Observed station is on Methodist Church at upper end of Solomons Island near beginning of causeway to mainland.

Marks.—Observed station is tip of pyramidal tower on Methodist Church.

References.—None necessary.

KNIGHTS OF PYTHIAS FLAGSTAFF (SOLOMONS).

General locality.—Northeastern side of Patuxent River, on Solomons Island, in the town of Solomons. (See chart No. 20.)

Immediate locality.—Observed station is on flagstaff in front of Knights of Pythias Building.

Marks.—Observed station is center of flagstaff at about the same height as roof of the Knights of Pythias hall.

References.—None necessary.

SAND.

General locality.—Northeastern side of Patuxent River on Sandy Point on extreme southern point of Solomons Island. (See chart No. 20.)

Immediate locality.—Observed station is on pasture land about 5 feet above high water, 30 yards north of extreme point of planking protecting the shore from washing, 15 yards northeast of the extreme edge of sand and grass line, and about 13 yards east of top of bank. Cement monument marking reference station is 13.64 meters N. 2° 19′ E. of observed station.

Marks.—Observed station is nail in southwest side of a 6-inch pile driven into ground with top 6 inches above the surface. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Drum Point Light" (N. 83° 57′ E.)	0	00	00	2 miles.
Right tangent of woods on Hog Point	14	36	..	3 miles.
Left end of peak of roof on 2½-story building at Pearsons	51	03	..	2 miles.
Chimney on storehouse at Millstone	74	18	..	1¾ miles.
Near point of gable of Hodgdon large house with square tower	93	54	..	1½ miles.
Near end of peak of roof of Marburger house	225	22	..	1¾ miles.
Warren house opposite Johnson store	261	22	..	¼ mile.
REFERENCE STATION	278	22	10	13.64 meters.
"Knights of Pythias flagstaff"	291	58	..	¼ mile.
Right chimney of Dr. Marsh house	320	38	..	⅛ mile.
"Bareda House Cupola"	347	48	30	1½ miles.

FISHSTACK.

General locality.—Northeastern side of Patuxent River on northeastern side of entrance to Mill and Back creeks. (See chart No. 20.)

Immediate locality.—Observed station is on mainland on fish fertilizer factory located on opposite side of creek from Solomons Island.

Marks.—Observed station is center of smokestack on fish factory.

References.—None necessary.

BON.

General locality.—North shore of Patuxent River about 1¼ miles west-northwest of Drum Point Light and about ½ mile east-northeast of Solomons Island. (See chart No. 20.)

Immediate locality.—Observed station is on cultivated land, about 5 feet above high water, about 7 yards north of shore, about 90 yards southeast of a 1½-story house on land 10 feet higher than station, and about 75 yards south of a 1½-story brick house. Cement monument marking reference station is 0.67 meter N. 45° 29′ E. of observed station.

Marks.—Observed station is an inverted nail in center of cement in a 6-inch tile pipe with top flush with surface of ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Drum Point Light" (S. 73° 43′ E.)	0	00	00	1¼ miles.
Smoke pipe on oyster watch house	33	32	..	½ mile.
Left end of peak of roof on 2½-story building at Pearsons	52	06	..	2¼ miles.
Left end of peak of roof on house with piazza	82	29	..	2½ miles.
Near point of roof of Hodgdon house with square tower	89	14	..	2¼ miles.
Chimney on end of house	133	57	..	¾ mile.
Left chimney on Weems house	159	37	..	¼ mile.

References—Continued.	°	′	″		
Right chimney on wooden house	224	01	..	.....	90 yards.
Left side of chimney on brick house	249	54	..	.....	75 yards.
REFERENCE STATION	299	12	00	.....	0.67 meters.
Near end of peak of house on bluff between trees	336	50	..	.....	½ mile.
"Bareda House cupola"	347	06	..	.....	¾ mile.

BAREDA HOUSE CUPOLA.

General locality.—North side of Patuxent River about one-half mile northwest of Drum Point Light. (See chart No. 20.)

Immediate locality.—Observed station is on Bareda House which is a large 3-story square mansion with square cupola with three windows on each side and a porch all around ground floor, located about 100 yards back from shore on high land.

Marks.—Observed station is center of ornamental design of four brackets on center of cupola.

References.—None necessary.

DRUM POINT LIGHT.

General locality.—Northeastern side of entrance of Patuxent River and a short distance off shore from Drum Point. (See chart No. 20.)

Immediate locality.—Observed station is on a screw pile structure known as Drum Point Lighthouse.

Marks.—Observed station is center of black lantern on Drum Point Lighthouse.

Reference.—	°	′	″		
"Cedar Point Light" (S. 64° 33′ E.)	0	00	00	.....	3¼ miles.

BEN.

General locality.—Southwestern shore of Patuxent River about 1 mile south-southwest of Sandy Point and 1¼ miles south-southeast of Town Point. (See chart No. 20.)

Immediate locality.—Observed station is on a clay and sand bluff in a cultivated field, about 20 feet above high-water mark, about 10 feet west of edge of bank, 3 feet south of point covered with scrub pines, about 15 yards northeast of one edge of plateau, 10 yards southeast of another edge of plateau, about 65 yards north of point of woods, and 10 yards south of cut in bank which is washing rapidly. Cement monument marking reference station is 8.42 meters S. 56° 15′ W. of station.

Marks.—Observed station is nail in cement in 6-inch tile pipe with top flush with ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Drum Point Light" (N. 68° 07′ E.)	0	00	00	.....	2¾ miles.
Left tangent of trees on Hog Point	16	21	..	.....	3¾ miles.
Near end of peak of roof of large 2½-story building at Pearsons	39	36	..	.....	2¼ miles.
Near piazza post of Millstone Hotel	56	11	..	.....	1¾ miles.
Chimney of Craddock house	60	28	..	.....	1¼ miles.
Chimney on end of cabin	97	24	..	.....	200 yards.
Tall pine tree	138	35	..	.....	50 yards.
REFERENCE STATION	168	08	00	.....	8.42 meters.
Nail in blaze in pine tree (4 inches diameter)	176	33	50	.....	7.79 meters.
Nail in blaze in pine tree (4 inches diameter)	223	40	40	.....	8.77 meters.
Nail in blaze in pine tree (4 inches diameter)	236	39	..	.....	2.07 meters.
Near end of peak of roof of Marburger house	272	12	..	.....	2 miles.
"Catholic Church Cross"	304	54	40	.....	1½ miles.
"Bareda House Cupola"	350	34	40	.....	2¼ miles.

CRADDOCK.

General locality.—Southern shore of Patuxent River, about 2⅜ miles south-southeast of Drum Point Light and ¼ mile west of Millstone Landing. (See chart No. 20.)

Immediate locality.—Observed station is on lawn about 15 feet above high-water mark, about 10 yards south from top edge of bank, 15 yards from bottom edge of bank and fence, 30 yards east of extreme edge of point, 30 yards northeast of trees along shore of pond, about 110 yards northwest of Craddock house and several outbuildings among poplar trees, 50 yards east of fence, and 70 yards west of driveway to house.

Marks.—Observed station is center point of triangle on standard cement monument, with top flush with lawn.

References.—

	°	′	″	
"Drum Point Light" (N. 37° 15′ E.)	0	00	00	2⅜ miles.
Left tangent of woods on Carroll Point	21	52	..	1¾ miles.
Near end of peak of roof of 2½-story building at Pearsons	42	25	..	1¼ miles.
Chimney on hotel at Millstone	64	56	..	½ mile.
Cottonwood tree (14 inches diameter)	68	54	..	80 yards.
Chimney on roof of Craddock 2½-story house	95	27	..	110 yards.
Nail in stump (14 inches diameter)	309	25	50	5.35 meters.
"Fishstack"	317	30	50	2 miles.

CARROLL 2.

General locality.—South side of Patuxent River, about 1 mile south-southwest of Hog Point and about 1 mile south of Drum Point Light. (See chart No. 20.)

Immediate locality.—Observed station is on a sandy clay bluff in a cultivated field, about 50 feet above high-water mark, 4 feet south of top edge of bluff, 180 yards east of trees and ravine beyond cultivated field, 60 yards west of trees and ravine beyond cultivated field, 300 yards north of large square chimney on old-fashioned farmhouse, and 250 yards north of large tree to right of farmhouse. Cement monument marking reference station is 13.32 meters S. 54° 30′ W. of observed station. Another reference station is a nail in the east side of cement in a 6-inch tile pipe 14.64 meters S. 13° 20′ E. of observed station and on range with Drum Point Light.

Marks.—Observed station is center of 5-inch tile pipe with top 8 inches below surface of ground. Reference station is nail in cement on east side of a 6-inch tile pipe with top 6 inches below surface of ground. Another reference station is center point of triangle on standard cement monument with top 9 inches below surface of ground.

References.—

	°	′	″	
"Drum Point Light" (N. 13° 20′ W.)	0	00	00	1 mile.
Left tree on Hog Point	81	59	40	1 mile.
Right of bushes at edge of ravine	142	00	..	75 yards.
Tree (12 inches diameter)	164	48	..	⅛ mile.
REFERENCE STATION (tile)	179	59	45	14.64 meters.
Tree (20 inches diameter)	183	25	..	⅛ mile.
Chimney of Susquehanna farmhouse	192	10	..	300 yards.
Large tree	199	08	..	250 yards.
REFERENCE STATION (monument)	247	50	00	13.32 meters.
Right chimney of Fenner Lee house	302	45	..	4½ miles.
Center of four-sided roof on Dr. Marsh house	307	58	..	2¼ miles.
"Catholic Church Cross"	315	32	00	2¾ miles.
Silver tip on tower of Vale house	316	15	30	3 miles.
Chimney of Bowen house	327	16	..	2 miles.
"Bareda House Cupola"	348	44	00	1½ miles.

HOG 2.

General locality.—Southern shore of entrance to Patuxent River on Hog Point, about 1⅞ miles west-northwest of Cedar Point Light. (See chart No. 20.)

Immediate locality.—Observed station is on a sand beach at high-water mark, 30 yards northwest of point of woods, and 200 yards north-northeast of nearest shore of Parsons Creek. Cement monument marking reference station is 33.35 meters S. 42° 22′ E. of observed station on a point of high land.

Marks.—Observed station is nail set in cement in a 6-inch tile pipe, with top 1 foot below the surface. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Drum Point Light" (N. 60° 44′ W.)	0	00	00	.....	1¼ miles.
"Bareda House Cupola"	2	44	50		1½ miles.
Chimney of cabin on opposite shore	22	20	..	.....	1¼ miles.
Tangent of Little Cove Point	71	56	..	.....	3½ miles.
"Cedar Point Light"	173	31	40	.....	2 miles.
REFERENCE STATION	198	21	50	.....	33.35 meters.
Nail in blaze in pine tree	201	03	..	.....	29.58 meters.
Cabin on opposite side of Parsons Creek	243	05	..	.....	¾ mile.
Chimney on Susquehanna farmhouse	301	04	..	.....	1 mile.
"Methodist Episcopal Church" (Solomons)	346	16	40	.....	3¼ miles.
Steeple of Vale house at Avondale	350	55	..	.....	3½ miles.

PAT.

General locality.—Western shore of Chesapeake Bay on Little Cove Point, about 1¾ miles south by west of Cove Point Light. (See chart No. 20.)

Immediate locality.—Observed station is on the highest point of a thickly wooded bluff, about 75 feet above high-water mark, 4 yards west of edge of bluff, and 15 yards southwest of extreme point. Cement monument marking reference station is 24.57 meters S. 71° 26′ W. of observed station.

Marks.—Observed station is a 3-inch round stake set in cement, with top about 4 inches above surface of ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Cedar Point Light" (S. 13° 54′ E.)	0	00	00	.....	4½ miles.
Near piazza post of house	14	52	..	.....	4 miles.
REFERENCE STATION	85	20	00	.....	24.57 meters.
Spike in blaze in tree (5 inches diameter)	94	51	..	.....	6.54 meters.
Spike in blaze in tree (5 inches diameter)	114	10	..	.....	3.42 meters.
Spike in blaze in tree (17 inches diameter)	138	54	..	.....	12.26 meters.
Spike in blaze in tree (13 inches diameter)	181	46	..	.....	5.50 meters.
"Cove Point Light"	203	25	30	.....	1¾ miles.
"Hoopers Island Light"	327	58	10	.....	10¼ miles.

WHITE HOUSE (NORTHEAST CHIMNEY).

General locality.—Western shore of Chesapeake Bay about 1 mile southwest of Cove Point Light and ¼ mile southwest of Cove Point Landing. (See chart No. 20.)

Immediate locality.—Observed station is a chimney standing alone about 300 yards southwest of Cove Point Landing which was formerly the more northeasterly of two chimneys on a house that was destroyed by fire. This chimney is near a white house which was built to replace the destroyed house.

Marks.—A chimney standing apart from a small white house owned by Mrs. Hagland.

References.—

	°	′	″		
"Cove Point Light" (N. 39° 54′ E.)	0	00	00	.....	1 mile.

COVE POINT LIGHT.

General locality.—Western shore of Chesapeake Bay on Cove Point, which is about 5 miles to northward of entrance to Patuxent River. (See chart No. 20.)

Immediate locality.—Observed station is on white tower known as Cove Point Light, which is near white detached dwelling and white detached fog-signal house.

Marks.—Observed station is center point of black lantern on white tower.

References.—

	°	′	″		
"Cedar Point Light" (S. 7° 16′ E.)	0	00	00	.....	6 miles.

CEDAR POINT LIGHT.

General locality.—Western shore of Chesapeake Bay on Cedar Point, 3¼ miles east-southeast of Drum Point Light and 6 miles south by east of Cove Point Light. (See chart No. 20.)

Immediate locality.—Observed station is on a brick dwelling known as Cedar Point Lighthouse.

Marks.—Observed station is center point of lantern on Cedar Point Lighthouse.

Reference.—

	°	′	″		
"Cove Point Light" (N. 7° 16′ W.)	0	00	00	.....	6 miles.

CAIN.

General locality.—Western shore of Cheapeake Bay, about 1⅝ miles southwest of Cedar Point Light. (See charts Nos. 20 and 21.)

Immediate locality.—Observed station is on a bank about 5 feet above high-water mark, about 20 yards northwest of ordinary high water, 5 yards northwest of extreme high water, 100 yards south-southwest of old-fashioned house among several large trees, and about 250 yards below small wharf and canning house. Cement monument marking reference station is 6.45 meters N. 16° 56′ E. of observed station.

Marks.—Observed station is a nail set in cement in a 3-inch pipe with top about 2 inches above ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Cedar Point Light" (N. 46° 45′ E.)	0	00	00	.....	1⅝ miles.
Steeple on church	28	26	..	.....	9½ miles.
"Hooper Island Light"	56	28	40	.....	7¾ miles.
"Point No Point Light"	106	05	..	.....	11¾ miles.
Right chimney on Tarleton house	135	12	..	.....	3¼ miles.
Near end of peak of 2-story house	148	41	..	.....	1¾ miles.
REFERENCE STATION	330	10	40	.....	6.45 meters.
Near corner of house	335	13	..	.....	100 yards.
Aspen tree in house yard	339	35	50	.....	100 yards.

DESERT.

General locality.—Western shore of Chesapeake Bay, about 3 miles south-southwest of Cedar Point Light. (See charts Nos. 20 and 21.)

Immediate locality.—Observed station is on sand and grass land, about 25 yards west from ordinary high-water mark, about at level of extreme high-water mark, 40 yards south of a fence, 10 yards east of a fence, 45 yards south of a creek, about 50 yards north of point of pine woods, and about 300 yards east of woods across marsh. Cement monument marking reference station is 5.29 meters N. 31° 24′ W. of observed station.

Marks.—Observed station is a 4-inch tile pipe projecting about 2 inches above surface of sand Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Cedar Point Light" (N. 34° 05′ E.)	0	00	00	.....	3 miles.
Steeple on church	34	19	40	.....	10½ miles.
"Hooper Island Light"	59	08	40	.....	8 miles.
"Point No Point Light"	113	27	30	.....	11 miles.
Near end of peak of roof of Tarleton house	135	09	..	.....	2 miles.
Point of woods	146	00	..	.....	50 yards.
Nail in blaze in pine tree (14 inches diameter)	294	30	40	.....	7.62 meters.
REFERENCE STATION	294	30	40	.....	5.29 meters.
Chimney on near end of house	336	38	..	.....	½ mile.
Large square chimney on larger of two houses	344	48	..	.....	1 mile.

HOOPER ISLAND LIGHT.

General locality.—Eastern side of Chesapeake Bay off shore about 3½ miles west of Hooper Island and 4 miles south of Barren Island. (See chart No. 21.)

Immediate locality.—Observed station is on Hooper Island Lighthouse.

Marks.—Observed station is center point of lantern on conical tower on cylindrical foundation known as Hooper Island Lighthouse.

References.—

	°	′	″	
"Cedar Point Light" (N. 65° 04′ W.)	0	00	00	7 miles.

FORD.

General locality.—Western shore of Chesapeake Bay about 1¾ miles south of entrance to Pine Hill Run and 7¾ miles west of Hooper Island Light. (See chart No. 21.)

Immediate locality.—Observed station is in a garden about 25 feet above high water, 32 yards west of edge of bank, 40 yards northeast of near corner of a house, 4 yards north of a wire fence, 33 yards north of a paling fence, and 38 yards south of another paling fence.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Cedar Point Light" (N. 17° 01′ E.)	0	00	00	4½ miles.
"Hooper Island Light"	62	59	20	7¾ miles.
OLD REFERENCE MARK (nail in tile pipe)	112	28	05	30.26 meters.
"Point No Point Light"	126	25	50	10 miles.
Nail in damson tree (5 inches diameter)	203	25	30	4.76 meters.
Chimney of Ford house	238	00	..	42 yards.
Peak of barn	292	11	..	76 yards.
Near peak of barn	331	37	..	2 miles.
Left chimney of house	339	20	..	3 miles.
Chimney on end of house	345	10	..	3½ miles.
Near peak of barn	353	00	..	4 miles.

REED.

General locality.—Western shore of Chesapeake Bay about 6½ miles south of Cedar Point Light, 6¾ miles northwest of Point No Point Light, and 7⅝ miles west-southwest of Hooper Island Light. (See chart No. 21.)

Immediate locality.—Observed station is about 10 feet above high water, 7 yards west of edge of bluff, 65 yards north-northeast of a house, 35 yards south of a fence, 45 yards north of another fence, 45 yards northwest of a large cedar tree on edge of bluff, and 35 yards north of a line of fruit trees. Cement monument marking reference station is on a line of fruit trees 34.13 meters S. 10° 11′ E. of observed station.

Marks.—Observed station is a cement block with gray iron core and nail in top. Block was formerly square, but has been broken off by plow. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Cedar Point Light" (N. 2° 25′ E.)	0	00	00	6½ miles.
"Hooper Island Light"	59	18	10	7⅝ miles.
"Point No Point Light"	136	59	10	6¾ miles.
Cedar tree (2 feet diameter)	140	30	..	45 yards.
Pear tree	163	59	..	35 yards.
REFERENCE STATION	167	23	40	34.13 meters.
Cherry tree	202	11	..	50 yards.
Near corner of house	207	16	..	65 yards.
Near peak of roof of house	289	35	..	200 yards.
Right chimney of Tarleton house	331	54	..	2⅜ miles.
Near chimney of 1½-story house	336	36	..	4 miles.
Near peak of Fenwick house	347	09	..	5½ miles.

POINT AGIN.

General locality.—Western shore of Chesapeake Bay about 4⅝ miles northwest of Point No Point Light, 8¾ miles south of Cedar Point Light, and 7¾ miles southwest of Hooper Island Light. (See chart No. 21.)

Immediate locality.—Observed station is near edge of dense pine woods about 5 feet above high water, 6 yards southwest of edge of bank, 10 yards south of point of curve of bank, 400 yards south of road across marsh, and 425 yards south of mouth of a sand-blocked creek. Cement monument marking reference station is 18.67 meters S. 49° 25′ W. of observed station.

Marks.—Observed station is nail in stub with top flush with surface of ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Cedar Point Light" (N. 6° 25′ W.)	0	00	00	.....	8⅜ miles.
"Hooper Island Light"	50	53	45	.....	7¾ miles.
"Point No Point Light"	141	42	30	.....	4⅝ miles.
Nail in blaze in pine tree	215	51	30	.....	17.72 meters.
REFERENCE STATION	235	50	00	.....	18.67 meters.
Nail in blaze in pine tree	255	27	00	.....	12.02 meters.
Nail in blaze in pine tree	281	58	30	.....	11.74 meters.

POINT NO POINT.

General locality.—Western shore of Chesapeake Bay about one-eighth mile northwest of Point No Point, 2 miles northwest of Point No Point Light, and 2 miles north-northeast of entrance to St. Jerome Creek. (See chart No. 22.)

Immediate locality.—Observed station is partly hidden by pine and cedar trees about 10 feet above high water, 50 yards west of shore, 65 yards southwest of point where fence and shore meet, 35 yards south of a fence, 30 yards south of edge of a graveyard, and 250 yards south by east of a house. Standard cement monument marking new reference station is 5.17 meters S. 77° 43′ W. of observed station. Stone monument marking old reference station is 2.44 meters north of observed station. Stone monument marking old reference station is 1.90 meters east of observed station. Stone monument marking old reference station is 1.29 meters south of observed station.

Marks.—Observed station is a stone cone with top 6 inches below surface of ground. Reference station is center point of triangle on standard cement monument. Three other reference stations are square stone pillars with crosses cut in their tops which are just above surface of ground.

References.—

	°	′	″		
"Point No Point Light" (S. 61° 29′ E.)	0	00	00	.....	2 miles.
Nail in blaze in tree	7	48	30	.....	106 feet.
Nail in blaze in tree (24 inches diameter)	118	03	00	.....	30.00 meters.
Chimney of house	146	17	..	.....	250 yards.
Near peak of roof on house showing through trees	184	06	..	.....	½ mile.
Tangent to fence and graveyard	225	00	..	.....	30 yards.
Two nails in blaze in cedar trees (22 inches diameter)	251	50	00	.....	11.40 meters.
Junction of fence and water	279	00	..	.....	65 yards.
NEW REFERENCE STATION (cement monument)	139	11	30	.....	5.17 meters.
OLD REFERENCE STATION (stone monument) North				.....	2.44 meters.
OLD REFERENCE STATION (stone monument) East				.....	1.90 meters.
OLD REFERENCE STATION (stone monument) South				.....	1.29 meters.

POINT NO POINT LIGHT.

General locality.—Western side of Chesapeake Bay off shore about 1⅞ miles southeast of Point No Point and 6⅜ miles north-northeast of Point Lookout. (See chart No. 22.)

Immediate locality.—Observed station is on Point No Point Lighthouse.

Marks.—Observed station is center point of lantern on brick dwelling on a cylindrical foundation known as Point No Point Lighthouse.

References.—

	°	′	″		
"Cedar Point Light" (N. 19° 35′ W.)	0	00	00	.....	12 miles.

ST. JEROME.

General locality.—Western shore of Chesapeake Bay on St. Jerome Point at north side of entrance to St. Jerome Creek about 2⅝ miles west-southwest of Point No Point Light. (See chart No. 22.)

Immediate locality.—Observed station is about 3 feet above high water, 6 yards northwest by west of shore, 75 yards south of a large pond, and 120 yards north of a house. Cement monument marking reference station is 19.57 meters N. 44° 49′ W. of observed station.

Marks.—Observed station is nail in stub with top flush with surface of ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Point No Point Light" (N. 78° 16′ E.)	0	00	00	.....	2⅝ miles.
Left tangent of woods	89	42	..	.....	1⅛ miles.
Near corner of house	142	45	..	.....	119 yards.
Near chimney of house	165	30	..	.....	½ mile.
Chimney of oyster house	173	56	..	.....	½ mile.
"St. Michael Catholic Church Spire"	194	12	20	.....	1⅝ miles.
Right chimney of house	217	16	..	.....	1¼ miles.
REFERENCE STATION	236	55	25	.....	19.57 meters.
Large chimney of house	248	03	..	.....	150 yards.
Chimney outside of house	282	50	..	.....	½ mile.
Right tangent of woods on Point No Point	317	21	..	.....	1½ miles.

ST. MICHAEL CATHOLIC CHURCH SPIRE.

General locality.—Western shore of Chesapeake Bay about one-half mile west of western and inner shore of St. Jerome Creek. (See chart No. 22.)

Immediate locality.—Observed station is on Catholic Church located on the east side of the main road running to Point Lookout near the village called Ridge or Friendship.

Marks.—Observed station is center point of spire on church.

References.—None necessary.

POINT LOOK-IN.

General locality.—Western shore of Chesapeake Bay on Point Look-in about 13⅜ miles south-southeast of entrance to St. Jerome Creek and 3 miles southwest of Point No Point Light. (See chart No. 22.)

Immediate locality.—Observed station is on sand dune about 3 feet above high water, 8 yards west of shore, 4 yards east of slough, 56 yards southeast of point of woods, and 90 yards north of another point of woods. Cement monument marking reference station is in woods across slough 44.04 meters N. 51° 59′ W. of observed station.

Marks.—Observed station is nail in stub with top flush with surface of ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Point No Point Light" (N. 47° 51′ E.)	0	00	00	.....	3 miles.
"Holland Island Bar Light"	51	24	10	.....	13 miles.
Left tangent of woods on Point Lookout	122	16	..	.....	3⅝ miles.
Point of woods	135	52	..	.....	90 yards.
Nail in blaze in oak tree (8 inches diameter)	250	40	30	.....	36.68 meters.
REFERENCE STATION	260	09	45	.....	44.04 meters.
Nail in blaze in oak tree (14 inches diameter)	262	25	30	.....	41.08 meters.
Nail in blaze in cedar tree (5 inches diameter)	271	36	00	.....	46.78 meters.
Near peak of roof on old barn	271	48	..	.....	⅜ mile.
Point of woods	272	26	..	.....	56 yards.
Near chimney of small house	286	35	..	.....	⅞ mile.
Two chimneys of old house	291	29	..	.....	2⅛ miles.
Near peak of roof of house on point	297	37	..	.....	1¾ miles.
Right tangent of woods on Point No Point	322	42	..	.....	2¾ miles.

POTOMAC.

General locality.—Western shore of Chesapeake Bay about three-fourths mile north of extreme end of Point Lookout and one-half mile north-northeast of Point Lookout Light. (See charts Nos. 22 and 23.)

Immediate locality.—Observed station is at upper end of pine woods about 2 feet above high water, 12 yards west by south of shore, 15 yards east-southeast of woods and edge of marsh, and 100 yards north of large pine trees. Cement monument marking reference station is 10.72 meters S. 23° 34′ W. of observed station.

Marks.—Observed station is nail in stub with top flush with surface of ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Point No Point Light" (N. 15° 30′ E.)	0	00	00	.....	5⅞ miles.
"Holland Island Bar Light"	67	11	30	.....	12⅜ miles.
"Smith Point Light"	131	41	30	.....	13¾ miles.
Nail in blaze in pine tree (3 inches diameter).	160	10	40	.....	6.56 meters.
REFERENCE STATION	188	04	10	.....	10.72 meters.
Chimney of house	230	58	..	.....	7 miles.
Nail in blaze in pine tree (3 inches diameter).	260	21	10	.....	10.62 meters.
First tree on Cornfield Point	268	48	..	.....	2 miles.
Nail in blaze in pine tree (3 inches diameter).	323	22	00	.....	6.56 meters.
First tree on Point Look-in	334	26	..	.....	3½ miles.
First tree on Point No Point	343	30	..	.....	6¼ miles.
"Hooper Island Light"	359	04	30	.....	14¼ miles.

POINT LOOKOUT LIGHT.

General locality.—Western side of Chesapeake Bay on Point Lookout at northern side of entrance to Potomac River. (See charts Nos. 22 and 23.)

Immediate locality.—Observed station is on Point Lookout Lighthouse, which is a dwelling on shore near a fog-bell tower.

Marks.—Observed station is center point of a lantern on a dwelling known as Point Lookout Lighthouse.

References.—

	°	′	″		
"Smith Point Light" (S. 34° 37′ E.)	0	00	00	.....	13 miles.

HALL.

General locality.—Northeastern shore of Potomac River about five-eighths mile northwest of Cornfield Point and 2¾ miles northwest of Point Lookout. (See chart No. 22.)

Immediate locality.—Observed station is about 5 feet above high water, 7 yards east of edge of bank, 6 yards south-southeast of a paling fence, and 150 yards south of a large house with two-story porch. Cement monument marking reference station is 17.82 meters N. 45° 59′ E. of observed station. Cemented tile pipe marking another reference station is 23.24 meters N. 47° 55′ E. of observed station.

Marks.—Observed station is nail in 4-inch cemented tile pipe with top flush with surface of ground. One reference station is center point of triangle on standard cement monument. The other reference station is a tile pipe set in cement with top flush with surface of ground.

References.—

	°	′	″		
"Day" (N. 46° 23′ W.)	0	00	00	.....	4½ miles.
Near peak of roof of Hall house	40	51	30	.....	150 yards.
REFERENCE STATION (cement monument)	92	22	50	.....	17.82 meters.
REFERENCE STATION (tile)	94	17	40	.....	23.24 meters.
Chimney of grain house	96	24	..	.....	70 yards.

HALL HOUSE (MIDDLE CHIMNEY).

General locality.—Northeastern shore of Potomac River about five-eighths mile northwest of Cornfield Point and 2¾ miles northwest of Point Lookout. (See chart No. 22.)

Immediate locality.—Observed station is on a large wooden house about 150 yards inshore from the bank of river.

Marks.—Observed station is middle point of middle chimney on large house belonging to Mr. Hall.

References.—None necessary.

SIG.

General locality.—Northeastern shore of Potomac River on eastern side of Calvert Bay on Gray Point. (See charts Nos. 22 and 24.)

Immediate locality.—Observed station is in edge of a scrub growth about 15 feet above high water, and 3 feet east of edge of bank. Cement monument marking reference station is 12.75 meters N. 58° 17′ E. of observed station.

Marks.—Observed station is nail in northern one of two stumps 2½ inches in diameter. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Day" (N. 64° 13′ W.)	0	00	00	.....	1¾ miles.
Tall pine tree on Kitts Point	2	18	..	.....	1¾ miles.
Chimney of house on Kitts Point	4	11	..	.....	1⅝ miles.
"Red Beacon"	9	07	40	.....	1 mile.
Large chimney of Lewis house	28	06	..	.....	1¼ miles.
Left chimney of Collison house	45	38	..	.....	¾ mile.
Near peak of house	60	29	..	.....	1¾ miles.
Nail in blaze in holly tree (3 inches diameter)	98	16	30	.....	4.57 meters.
REFERENCE STATION	122	29	40	.....	12.75 meters.
Nail in blaze in gum tree (3 inches diameter)	138	28	40	.....	5.16 meters.
Nail in blaze in pine tree (4 inches diameter)	196	52	30	.....	6.75 meters.
Chimney of 1½-story house	353	44	..	.....	4¾ miles.
Near peak of roof of large house	357	54	..	.....	4¾ miles.

SMITH POINT LIGHT.

General locality.—Western side of Chesapeake Bay on southern side of entrance to Potomac River offshore about 3 miles east of Smith Point. (See chart No. 23.)

Immediate locality.—Observed station is on a square brick tower on an octagonal brick building with a cylindrical foundation.

Marks.—Observed station is center point of lantern on structure known as Smith Point Lighthouse.

References.—

	°	′	″		
"Point Lookout Light" (N. 34° 32′ W.)	0	00	00	.....	13 miles.

RED BEACON (1908).

General locality.—Northeastern side of Potomac River offshore in the mouth of Smiths Creek. (See chart No. 24.)

Immediate locality.—Observed station is on a triangular pile structure.

Marks.—Observed station is center point of a small lantern on pile structure known as Smiths Creek Red Beacon.

References.—None necessary.

DAGO.

General locality.—Eastern side of entrance to Smith Creek about one-half mile south-southwest of of Millers Wharf. (See chart No. 24.)

Immediate locality.—Observed station is in a small garden about 6 feet above high water, 40 yards north of an old hotel, 65 yards east of shore, and 165 yards southeast of a lumber wharf. Cement monument marking reference station is on a fence line 29.41 meters N. 78° 13′ W. of observed station.

Marks.—Observed station is tile pipe set in cement with top broken off about 9 inches below surface of ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"In" (N. 1° 39′ E.)	0	00	00	⅝ mile.
"Pipe" (taller stack of canning house)	25	21	30	½ mile.
Near corner of house	29	26	..	160 yards.
Near corner of barn	29	26	..	100 yards.
Northeast corner of old hotel	165	22	..	51.97 meters.
Northwest corner of old hotel	218	21	..	37.67 meters.
Tree (8 inches diameter)	261	55	..	42 yards.
REFERENCE STATION	280	07	30	29.41 meters.
Chimney of house across creek	307	19	..	⅝ mile.

TAB.

General locality.—Western shore of Smith Creek on second prominent point from entrance to creek about three-fourths mile west-southwest of Millers Wharf. (See chart No. 24.)

Immediate locality.—Observed station is about 5 feet above high water, 2 yards north of edge of bank, 5 feet south of edge of bank, 14 yards southwest of a low point, 16 yards north of another low point, 31 yards southeast of still another point, and 58 yards east of a wild-cherry tree. Cement monument marking reference station is 14.53 meters S. 61° 14′ W. of observed station. Reference tile pipe filled with cement is 47.93 meters S. 61° 25′ W. of observed station.

Marks.—Observed station is center of 4-inch tile pipe filled with cement with top flush with surface of ground. One reference station is center point of triangle on standard cement monument. Another reference station is center of cemented tile pipe flush with surface of ground.

References.—

	°	′	″	
"In" (N. 48° 08′ E.)	0	00	00	⅝ mile.
Near peak of roof of Dunbar house	14	00	..	1¼ miles.
Gilt ball on center of roof of building	16	41	..	2¾ miles.
"Pipe" (taller stack of canning house)	20	20	40	¾ mile.
Left chimney of house with ell	36	27	..	½ mile.
Left chimney of house	55	07	..	½ mile.
Near peak of roof of old hotel	69	41	..	½ mile.
"Red Beacon"	105	29	10	⅝ mile.
Right one of two cedar trees	150	24	..	55 yards.
REFERENCE STATION (monument)	193	06	10	14.53 meters.
REFERENCE STATION (tile)	193	17	00	47.93 meters.
Wild-cherry tree	235	22	..	31 yards.
Near peak of large house	300	01	..	¼ mile.

PIER.

General locality.—Eastern shore of Smith Creek at steamboat landing known as Millers Wharf. (See chart No. 24.)

Immediate locality.—Observed station is on snubbing post on north corner of Millers Wharf, 1.46 meters from northeast side of wharf and 0.79 meters from northwest side.

Marks.—Nails mark point where spindle was fastened to snubbing post.

References.—None necessary.

PIPE.

General locality.—Eastern shore of Smith Creek at Millers Wharf. (See chart No. 24.)

Immediate locality.—Observed station is on a building used for packing oysters and tomatoes near wharf at Wynne.

Marks.—Observed station is center of the taller and more southerly of two smoke pipes on canning house at Millers Wharf.

References.—None necessary.

ENOUGH.

General locality.—Southeastern shore of northeastern branch of Smith Creek about one-fourth mile east-northeast of Millers Wharf. (See chart No. 24.)

Immediate locality.—Observed station is on a lightly wooded bank about 12 feet above high water, 5 yards back from edge of bank, 40 yards southwest of a house, and 45 yards northwest of a barn. Cement monument marking reference station is near fence, 19.75 meters N. 19° 51′ E. of observed station.

Marks.—Observed station is hole in top of a 3-inch square stub with top about 3 inches above surface of ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"In" (N. 86° 09′ W.)	0	00	00	¼ mile.
Chimney of house	105	20	..	½ mile.
REFERENCE STATION	106	00	00	19.75 meters.
Near gable of Logan Dunbar house	118	17	..	40 yards.
West post of small gate	139	45	..	28 yards.
North gable of barn	215	04	..	45 yards.
North chimney of Fred Dunbar house	234	26	..	¼ mile.
East chimney of 2-story house	252	32	..	½ mile.
North gable of store at Wynne	329	54	..	¼ mile.
"Pipe" (taller stack of canning house)	330	33	..	¼ mile.

DRUM.

General locality.—Northwestern shore of northeastern branch of Smith Creek about ¼ mile north-northeast of Millers Wharf. (See chart No. 24.)

Immediate locality.—Observed station is on marsh land on a point opposite Millers Wharf about 21 yards north of shore, 22 yards west of shore, 25 yards northeast of shore, and 35 yards southeast of a cultivated field with several cedar trees along its edge.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"In" (S. 77° 10′ W.)	0	00	00	¼ mile.
Large chimney of house	151	20	..	½ mile.
North gable of tobacco barn	152	13	..	¾ mile.
Flagstaff on Dunbar pavilion	180	14	..	¼ mile.
North gable of house	195	00	..	½ mile.
Left chimney of 2½-story house	212	55	..	¼ mile.
Left chimney of Moore house	215	23	..	¼ mile.
North gable of stable	223	36	..	¼ mile.
Left chimney of 2½-story house	235	05	..	⅜ mile.
Chimney of 1¼-story house	246	10	..	½ mile.
Cupola of barn	272	21	..	¼ mile.
"Pipe" (taller stack of canning house)	299	56	20	⅜ mile.
West gable of old hotel	307	31	..	½ mile.

IN.

General locality.—Northern shore of Smith Creek on a point between two main branches of creek about one-fourth mile northwest of Millers Wharf. (See chart No. 24.)

Immediate locality.—Observed station is on a grass point which is surrounded by small bowlders and cobble stones visible at low water about 2 feet above high water, 2 yards east of side of point, 3 yards northwest of side of point, 10 yards north-northeast of extreme end of point, and near three trees. Cement monument marking reference station is 9.32 meters N. 7° 09′ E. of observed station.

Marks.—Observed station is a 2-inch square stick in center of a 4-inch tile pipe filled with and set in cement with top about flush with surface of ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Dago" (S. 1° 40′ W.)	0	00	00	⅝ mile.
Right peak of roof of old hotel	1	30	..	⅝ mile.
Left tangent of point of land	28	39	..	⅞ mile.
Right chimney of large house	64	15	..	½ mile.
Nail in blaze in cedar tree (7 inches diameter)	160	37	00	2.03 meters.
REFERENCE STATION	185	28	45	9.32 meters.
Nail in blaze in cedar tree (14 inches diameter)	204	13	40	5.33 meters.
Nail in blaze in cedar tree (20 inches diameter)	213	09	00	11.24 meters.
Cedar tree (24 inches diameter)	242	18	..	40 yards.
Right peak of Dunbar house	255	36	..	⅝ mile.
Front peak of large house	268	57	..	½ mile.
"Pipe" (taller stack of canning house)	300	57	00	¼ mile.
Near peak of roof of house	340	21	30	⅞ mile.

OAK.

General locality.—Western shore of Smith Creek at entrance to northwestern branch of creek about one-half mile west of Millers Wharf. (See chart No. 24.)

Immediate locality.—Observed station is in a pasture about 6 feet above high water, 15 yards south-southeast of center of a clump of trees, 20 yards south of shore, 28 yards north of shore, and 45 yards west of extreme end of point. Cement monument marking reference station is 14.87 meters N. 53° 12′ W. of observed station.

Marks.—Observed station is a square hole in cement in 4-inch tile pipe set in cement. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"In" (N. 88° 51′ E.)	0	00	00	¼ mile.
Front peak of house	1	04	..	⅞ mile.
"Pipe" (taller stack of canning house)	15	42	30	½ mile.
Near peak of roof of small 2-story house	40	58	..	½ mile.
Middle chimney of T-shaped house	58	33	..	⅝ mile.
Near corner of old hotel	67	52	..	⅝ mile.
"Red Beacon"	82	15	10	1 mile.
Near peak of roof of large barn	140	38	..	¼ mile.
Large cherry tree	172	38	..	157 yards.
REFERENCE STATION	217	56	45	14.87 meters.
Nail in blaze in oak stump (20 inches diameter)	219	57	50	23.14 meters.
Nail in blaze in hickory tree (8 inches diameter)	222	51	10	14.58 meters.
Nail in blaze in double oak tree (8 inches diameter)	248	19	00	13.69 meters.

References—Continued.

	°	′	″	
Nail in blaze in hickory tree (4 inches diameter)	267	01	00	7.37 meters.
"Flagpole" (on Jutland farmhouse)	237	06	..	5/8 mile.
Blaze in oak stump (30 inches diameter)	340	26	..	2.04 meters.

OUT.

General locality.—Eastern shore of northwestern branch of Smith Creek about one-eighth mile north of the main body of Smith Creek. (See chart No. 24.)

Immediate locality.—Observed station is on a sand and marsh point about 1 foot above high water, 6 yards north of shore, 7 yards southeast of shore, 24 yards east of extreme end of point, and 7 yards west of a cultivated field. Cement monument marking reference station is 6.96 meters N. 82° 50′ E. of observed station.

Marks.—Observed station is center of a 2-inch pine stub set in cement. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Red Beacon" (S. 1° 55′ W.)	0	00	00	1 3/8 miles.
Tangent of Kitts Point	20	00	..	7/8 mile.
Left chimney of 2-story house	49	34	..	1/2 mile.
East peak of barn	53	33	..	1/2 mile.
Chimney of small house on opposite shore	141	20	..	1 mile.
Windmill	156	17	..	3/8 mile.
Nail in blaze in pine tree	203	08	00	8.17 meters.
REFERENCE STATION	260	55	15	6.96 meters.
Nail in blaze in holly tree	293	38	55	6.27 meters.
Between two chimneys of Morris house	345	00	..	1/2 mile.
Chimney of house near old hotel	351	11	..	3/4 mile.
West gable of old hotel	353	02	..	3/4 mile.

STUNG.

General locality.—Southwestern shore of northwestern branch of Smith Creek about three-fourths mile northwest of Millers Wharf and one-fourth mile northwest of main body of Smith Creek. (See chart No. 24.)

Immediate locality.—Observed station is on solid ground on a point making out just above a small cove about 2 feet above high water, 7 yards south of shore, 9 yards northwest of shore, 15 yards southwest of extreme end of point, and 45 yards from a growth of young pine trees.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Flagpole" (N. 22° 40′ E.)	0	00	00	3/8 mile.
Windmill	0	36	..	3/8 mile.
Left chimney of 2 1/2-story house	83	31	..	1 mile.
"Pipe" (taller stack of canning house)	99	05	20	3/4 mile.
Left chimney of house at Wynne	102	54	..	3/4 mile.
Left chimney of Morris house	122	46	..	3/4 mile.
Left chimney of large house	127	01	..	7/8 mile.
Nail in blaze in oak tree (5 inches diameter)	184	40	30	6.08 meters.

JUTLAND.

General locality.—Northeastern shore of northwestern branch of Smith Creek about one-half mile north of main body of Smith Creek on a point of land between two coves. (See chart No. 24.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 2 yards north of shore, 4 yards south of shore, 5 yards east of extreme end of point, and 11 yards from bank with large cedar trees on its edge with a peach orchard back of them. Cement monument marking reference station is 10.36 meters N. 86° 27′ E. of observed station.

Marks.—Observed station is nail in stub with top flush with surface of ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Out" (S. 29° 51′ E.)	0	00	00	¼ mile.
Two chimneys of Morris house	10	00	..	¾ mile.
Chimney of house near old hotel	16	12	..	1 mile.
West gable of old hotel	17	17	..	1 mile.
"Red Beacon"	25	01	10	1⅜ miles.
East gable of barn	56	18	..	¾ mile.
Southeast gable of small house	139	54	..	¾ mile.
Chimney of small house	169	12	..	¾ mile.
Windmill	201	07	..	¼ mile.
"Flagpole" (on Jutland farmhouse)	204	12	55	¼ mile.
REFERENCE STATION	296	18	35	10.36 meters.
Nail in blaze in cedar tree	299	35	00	11.65 meters.

FLAT.

General locality.—Western shore of northwestern branch of Smith Creek about three-fourths mile north-northwest of main body of Smith Creek on a point of land between two coves. (See chart No. 24.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 5 yards south of shore, 7 yards north of shore, 10 yards west of extreme end of point, and 12 yards from a field 5 feet higher than marsh. Cement monument marking reference station is 10.41 meters S. 65° 00′ W. of observed station.

Marks.—Observed station is a 2-inch square pine stub with top about 3 inches above surface of marsh. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Jutland" (S. 50° 36′ E.)	0	00	00	¼ mile.
"Pipe" (taller stack of canning house)	5	10	..	1 mile.
Between two chimneys on Morris house	22	23	..	1 mile.
Chimney of house near old hotel	29	05	..	1¼ miles.
West gable of old hotel	29	44	..	1¼ miles.
Blaze in pine tree	107	37	30	14.12 meters.
REFERENCE STATION	115	35	40	10.41 meters.
Chimney of house	140	32	..	¾ mile.
Chimney of small house	200	41	..	¼ mile.
Chimney of house	226	33	..	¾ mile.
"Flagpole" (on Jutland farmhouse)	310	56	40	¼ mile.

FLAGPOLE.

General locality.—Northeastern shore of northwestern branch of Smith Creek, on a house about three-fourths mile north-northwest of main body of Smith Creek. (See chart No. 24.)

Immediate locality.—Observed station is on east gable on the front of a house on Jutland farm.

Marks.—Observed station is flagpole on east gable on the front of residence on Jutland farm.

References.—None necessary.

RAN 2.

General locality.—Eastern shore of northwestern branch of Smith Creek on a point opposite a small cove and about seven-eighths mile north-northwest of main body of Smith Creek. (See chart No. 24.)

Immediate locality.—Observed station is on a narrow sand and marsh point about 1 foot above high water, 3 yards north of shore, 3 yards south of shore, 11 yards east of extreme end of point and in front of a bank 8 or 9 feet high covered with honeysuckle and several large trees. Cement monument marking reference station is about 10 feet above high water 13.74 meters N. 87° 50′ E. of observed station.

Marks.—Observed station is hole in stub with top about 6 inches above surface of marsh. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Jutland" (S. 25° 04′ E.)	0	00	00	⅜ mile.
Chimney of Morris house	3	33	..	1⅛ miles.
Large chimney of house near old hotel	8	29	..	1⅜ miles.
West peak of old hotel	9	13	..	1⅜ miles.
"Red Beacon"	12	45	10	1¼ miles.
East peak of barn	93	05	..	½ mile.
Chimney of small house	139	10	..	250 yards.
Small blazed apple tree	285	00	..	18.88 meters.
REFERENCE STATION	292	54	00	13.74 meters.
"Flagpole" (on Jutland farmhouse)	333	59	10	⅛ mile.
Windmill	342	24	..	⅛ mile.

DAY.

General locality.—Northeastern shore of Potomac River about one-fourth mile northwest of Kitts Point between entrances to St. Marys River and Smith Creek. (See chart No. 24.)

Immediate locality.—Observed station is on small island of solid ground on a marsh point about 5 feet above high water, 3 yards east of shore, 20 yards northeast of shore, 18 yards north of extreme end of point, and 150 yards south of a large lone dead tree.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Labor" (N. 89° 37′ W.)	0	00	00	2⅜ miles.
Near peak of roof of 2½-story house	22	23	..	3 miles.
Near peak of roof of brick house	48	44	30	3⅛ miles.
Tall pine on Kitts Point	73	48	20	150 yards.
Chimney of old house	118	15	..	⅛ mile.
"Pipe" (taller stack of canning house)	146	59	00	1⅜ miles.
Near peak of roof of tobacco house	159	51	..	⅛ mile.
Near peak of roof between two chimneys	181	07	20	¼ mile.
Chimney of Hall house	222	41	..	4½ miles.

LABOR.

General locality.—Northeastern shore of Potomac River on western side of entrance to St. Marys River on a small island forming the southeastern end of St. George Island. (See chart No. 24.)

Immediate locality.—Observed station is on a marsh grass point about on level with high water, 5 yards north of side of point, 5 yards west of side of point, 8 yards northwest of extreme end of point, 65 yards southwest of another point, 65 yards north-northeast of still another point, and 125 yards southeast of a small pine woods across slough. Cement monument marking reference station is 13.56 meters N. 64° 06′ W. of observed station.

Marks. Observed station is nail in stub with top about flush with surface of ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Hall" (S. 61° 00′ E.)	0	00	00	6½ miles.
Center of railing around top of Passis house	117	41	..	4¾ miles.
Canning-house stack	119	24	..	3½ miles.
Left tangent of woods on St. George Island	133	31	..	½ mile.
Inside corner of Poe house on St. George Island	156	11	..	⅛ mile.
REFERENCE STATION	176	54	00	13.56 meters.
Near peak of roof of Crowder house	208	19	..	1 mile.
Center of left tower on Kennedy house	261	38	..	4 miles.
Chimney of Taylor house	274	58	..	4 miles.
Right chimney of old house	331	29	40	2½ miles.

LYNCH POINT 3 (VIRGINIA).

General locality.—Southwestern shore of Potomac River about three-eighths mile northwest of Lynch Point on northwestern side of entrance to Yeocomico River. (See progress map.)

Immediate locality.—Observed station is on sand beach near edge of grass about on level with high water, 50 yards southeast of edge of dense pine woods and a wire fence, 90 yards northwest of another dense pine woods, and northeast of a slough with about a dozen trees on opposite side. One referenc tile set in cement is at edge of woods 55.68 meters on a continuation inshore of line from Point Lookout Light. Another reference tile set in cement is in woods 85.53 meters in same direction as the nearer reference station.

Marks.—Observed station is center one of four nails in top of a post 5 inches below surface of ground. Reference stations are titles set in cement with tops about 2 inches above surface of ground.

References.—	°	′	″	
"Piney Point Light" (N. 4° 02′ W.)	0	00	00	6 miles.
Steeple on church	29	29	..	5¼ miles.
Tall pine tree on Kitts Point	58	30	..	6⅞ miles.
"St. Michaels Catholic Church Spire"	63	41	30	9⅝ miles.
White tower on building	80	54	..	8⅝ miles.
Tangent of woods	142	48	..	3½ miles.
Chimney of house	208	48	..	1¾ miles.
REFERENCE STATION (tile)	278	00	30	55.68 meters.
REFERENCE STATION (tile)	278	00	30	85.53 meters.
Near peak of roof between two chimneys	357	13	..	7 miles.

BETWEEN.

General locality.—Eastern shore of St. Marys River about 1¼ miles northwest of Kitts Point at entrance to river. (See chart No. 24.)

Immediate locality.—Observed station is in a pasture about 3 feet above high water, 5 yards northeast of edge of bank, 5 yards southeast of a rail fence, 12 yards southwest of shore of a creek, and 7 to 10 yards west to northwest of persimmon trees. Cement monument marking reference station is at edge of high land 14.42 meters S. 56° 22′ E. of observed station.

Marks.—Observed station is nail in stub with top flush with surface of ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Day" (S. 27° 01′ E.)	0	00	00	1⅛ miles.
Chimney of house at edge of woods	90	45	..	2⅛ miles.
Chimney of house beyond middle of woods	96	16	..	2¼ miles.
Chimney of large house with ell	103	50	..	2⅜ miles.
Chimney of 2½-story house	126	32	..	3⅛ miles.
"Piney Point Light"	128	35	30	5½ miles.
Near peak of roof of brick house between two chimneys	160	32	..	2¼ miles.
Nail in blaze in persimmon tree (4 inches diameter)	172	47	00	5.87 meters.
"Water Tower" (near Portobello)	188	38	30	4 miles.
Nail in blaze in persimmon tree (4 inches diameter)	200	28	20	6.94 meters.
Nail in blaze in persimmon tree (5 inches diameter)	306	27	10	9.34 meters.
REFERENCE STATION	330	39	00	14.42 meters.
Tall pine on Kitts Point	358	55	..	1⅛ miles.

FORT.

General locality.—Eastern shore of St. Marys River on Fort Point about 2¼ miles north of entrance to river and seven-eighths of a mile south of Priests Point. (See chart No. 24.)

Immediate locality.—Observed station is in a cultivated field about 15 feet above high water, 16 yards east of edge of bank, 70 yards west by south of a house, and 34 yards south-southwest of a corner of a fence. Cement monument marking reference station is 32.17 meters N. 22° 20′ E. of observed station.

Marks.—Observed station is nail in stub with top flush with surface of ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Rod" (N. 10° 16′ W.)	0	00	00	⅞ mile.
REFERENCE STATION	32	35	55	32.17 meters.
Near chimney of Taylor house	78	44	..	70 yards.
Chimney of small building	106	38	..	250 yards.
Chimney of 2½-story house with ell	246	30	..	2⅛ miles.
Canning-house stack	314	03	..	2¼ miles.
Near peak of roof of stable	342	24	..	2⅛ miles.
"Water tower" (near Portobello)	351	03	10	2¾ miles.

POND.

General locality.—Western shore of St. Marys River on Pond Point about seven-eighths of a mile north-northeast of Cherryfield Point at entrance to St. George River. (See chart No. 24.)

Immediate locality.—Observed station is on marshland at edge of woods about on level with high water, 6 yards west of edge of marsh, 7 yards south of edge of marsh, 25 yards northeast of edge of marsh, and 20 to 30 yards north and east of pine trees. Cement monument marking reference station is 29.59 meters S. 77° 29′ W. of observed station.

Marks.—Observed station is nail in stub. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Rod" (N. 52° 55′ E.)	0	00	00	1¾ miles.
"St. Inigoes Church Cross"	15	18	00	2 miles.
Chimney of Taylor house	41	46	..	1¼ miles.
Tall pine on Kitts Point	85	08	40	3 miles.
Tangent of Cherryfield Point	138	25	..	¾ mile.
Nail in blaze in pine tree (12 inches diameter)	177	23	50	22.93 meters.
REFERENCE STATION	204	33	30	29.59 meters.
Nail in blaze in pine tree (20 inches diameter)	214	12	00	25.53 meters.
Nail in blaze in pine tree (18 inches diameter)	253	46	30	17.40 meters.
Canning-house stack	276	48	..	1½ miles.
"Water Tower" (near Portobello)	311	59	40	2½ miles.
"Calvert Monument"	328	02	20	3½ miles.
Near peak of house on Bromes Wharf	328	46	..	3½ miles.
Center of left tower on Kennedy house	344	45	..	1⅞ miles.

ROD (PRIESTS HOUSE).

General locality.—Eastern shore of St. Marys River on Priests Point at south side of entrance to St. Inigoes Creek. (See chart No. 24.)

Immediate locality.—Observed station is on a small cupola-shaped centerpiece, or ventilator, on middle of roof of a summer residence of the order of Jesuits, sometimes called Priests Villa.

Marks.—Observed station is a lightning rod on the center ventilator on middle of roof of Priests Villa.

References.—None necessary.

THOMPSON.

General locality.—Western shore of St. Marys River about three-eighths of a mile east-northeast of entrance to Carthagena Creek, five-eighths of a mile southwest of Windmill Point, and 1 mile north of Pond Point. (See chart No. 24.)

Immediate locality.—Observed station is in a cultivated field about 20 feet above high water, 5 yards southwest of edge of bank, 6 yards northeast of edge of bank, and 7 yards west of extreme edge of bank. Cement monument marking reference station is buried with top about 10 inches below surface of ground 25.00 meters N. 36° 53′ W. of observed station.

Marks.—Observed station is center of a 3-inch square pine box with top flush with surface of ground. Reference station is center point of triangle on standard cement monument with top about 10 inches below surface of ground.

References.—	°	′	″	
"Pond" (S. 2° 06′ E.)	0	00	00	1 mile.
Nail in large dying pine tree	18	38	00	7.69 meters.
Chimney outside of small house	31	52	..	¾ mile.
Left peak of roof between two chimneys	38	38	..	¾ mile.
REFERENCE STATION	145	13	10	25.00 meters.
Right peak of roof of house	161	05	..	¼ mile.
Right piazza post of Kennedy house	251	57	..	1¼ miles.
Left chimney of Raley house	274	17	..	1½ miles.
"St. Inigoes Church Cross"	280	17	10	2 miles.
"Rod" (on Priests Villa)	286	52	50	1⅛ miles.
Near peak of roof of Taylor house	314	17	..	1⅞ miles.

RALEY.

General locality.—Southeastern side of entrance to St. Inigoes Creek about one-half mile northeast of Priests Point and seven-eighths of a mile east-southeast of Windmill Point. (See chart No. 24.)

Immediate locality.—Observed station is in a cultivated field about 15 feet above high water, 40 yards southeast of edge of bank, 40 yards west of edge of ravine, and 135 yards north of a barn.

Marks.—Observed station is center point of triangle on standard cement monument with top about 12 inches below surface of ground. Surface mark is center of a 3-inch square wooden box.

References.—	°	′	″	
"Rod" (S. 51° 03′ W.)	0	00	00	½ mile.
Near corner of near chimney of Raley house	8	58	..	150 yards.
Large tree	32	51	..	100 yards.
Chimney of Kennedy house	101	49	..	½ mile.
Chimney of small house	155	22	..	½ mile.
Near peak of roof of wharf house	167	16	..	⅝ mile.
Chimney of house among trees	177	26	..	⅝ mile.
Chimney of small house	211	07	..	½ mile.
"St. Inigoes Church Cross"	246	43	00	⅝ mile.
Right peak of roof of barn	315	14	..	135 yards.
Near peak of corncrib	351	33	..	150 yards.

INIGOES.

General locality.—Northern side of entrance to St. Inigoes Creek about five-eighths of a mile north of Priests Point and five-eighths of a mile east of Windmill Point. (See chart No. 24.)

Immediate locality.—Observed station is offshore in about 4 feet of water, 1½ feet southeast of boat landing, and 45 yards southwest of shore. Cement monument marking reference station is on top of bank about 15 feet high, 50.87 meters N. 39° 25′ E. of observed station.

Marks.—Observed station is a 3-inch square stub driven into bottom in about 4 feet of water and standing plumb with top about 2 feet above high water. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Rod" (S. 11° 53′ W.)	0	00	00	⅝ mile.
Left tangent of left chimney of brick house	49	03	..	1¾ miles.
Left peak of roof of carriage house	87	04	..	⅞ mile.
Right chimney of Coppage house	106	26	..	1⅜ miles.
Chimney of McKay house	139	56	..	1¾ miles.
Center of right tower of Kennedy house	168	07	..	400 yards.
REFERENCE STATION	207	31	30	50.87 meters.
Left chimney of Tyler house	267	42	..	⅞ mile.
"St. Inigoes Church Cross"	297	30	40	1 mile.
Large chimney of Raley house	330	38	..	⅜ mile.

ST. INIGOES CHURCH CROSS.

General locality.—Eastern side of St. Marys River inshore about 1 mile east from Priests Point and three-fourths of a mile south of Grason Wharf on St. Inigoes Creek. (See chart No. 24.)

Immediate locality.—Observed station is on St. Inigoes Catholic Church.

Marks.—Observed station is center of cross on St. Inigoes Catholic Church.

References.—None necessary.

CHURCH.

General locality.—Southeastern shore of St. Inigoes Creek about five-eighths mile east of St. Marys River and one-fourth mile southwest of Grason Wharf. (See chart No. 24.)

Immediate locality.—Observed station is about 2 feet above high water on a rounded point of land nearly surrounded by water, 13 yards southeast of shore, 14 yards south of shore, 24 yards west-southwest of shore, and 35 yards north of inlet and cedar trees.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Grason" (N. 34° 44′ E.)	0	00	00	¼ mile.
Near peak of roof of Grason stable	2	52	..	¼ mile.
Between two chimneys on near end of Grason house	9	05	..	¼ mile.
Nail in blaze in cedar tree (6 inches diameter)	63	26	00	12.52 meters.
Nail in blaze in cedar tree (5 inches diameter)	111	22	20	9.95 meters.
Nail in blaze in cedar tree (4 inches diameter)	150	08	00	7.42 meters.
Near peak of roof between two chimneys on Raley house	280	00	10	⅜ mile.
Chimney of house	319	57	..	½ mile.
Left chimney on end of house	333	47	..	1¾ miles.
Near peak of roof of Grason Wharf house	345	46	..	¼ mile.

COTTAGE.

General locality.—Northwestern shore of St. Inigoes Creek about one-half mile east-northeast of St. Marys River and three-eighths mile west-southwest of Grason Wharf. (See chart No. 24.)

Immediate locality.—Observed station is on sand about 1 foot above high water, 2 yards north-northwest of shore, 20 yards south-southeast of woods, and 120 yards southwest by west of extreme end of point. Cement monument marking reference station is 12.82 meters N. 18° 52′ W. of observed station.

Marks.—Observed station is center of 3-inch square wooden box with top flush with surface of sand. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Rod" (S. 37° 46′ W.)	0	00	00	.....	⅞ mile.
REFERENCE STATION	123	22	00	.....	12.82 meters.
Nail in blaze in pine tree (24 inches diameter)	124	36	10	.....	26.03 meters.
Chimney of house	174	17	..	.....	¼ mile.
Nail in blaze in double pine tree (5 inches diameter)	187	08	40	.....	30.90 meters.
"Smoke" (west chimney of tenant house)	213	55	..	.....	½ mile.
Between two chimneys of Grason house	223	01	..	.....	⅜ mile.
Nail in blaze in cedar tree (14 inches diameter)	223	21	40	.....	17.93 meters.
Left chimney of old house	254	07	..	.....	½ mile.
Left peak of roof of Raley barn	342	22	..	.....	⅜ mile.
Near peak of roof between two chimneys on Raley house	352	58	..	.....	½ mile.

DUSKY.

General locality.—Northwestern shore of St. Inigoes Creek on a prominent point between creek and a small cove nearly opposite Grason Wharf and about three-fourths mile northeast of St. Marys River. (See chart No. 24.)

Immediate locality.—Observed station is about on level with high water, about 5 yards east of a fence which is on top of a tree-fringed bank 15 feet high. Cement monument marking reference station is near an old creek bed 25.09 meters N. 2° 34′ E. of observed station.

Marks.—Observed station is center of a 3-inch square wooden box. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Smoke" (N. 89° 43′ E.)	0	00	00	.....	⅜ mile.
Near end of Grason Wharf	32	53	..	.....	⅛ mile.
Right peak of roof of house	70	09	..	.....	⅝ mile.
Chimney on outside of small house	79	09	..	.....	⅝ mile.
Left peak of roof of Raley barn	115	32	..	.....	⅝ mile.
Left corner of Raley house	122	40	..	.....	⅝ mile.
Right corner of Priest's Villa	128	30	..	.....	1 mile.
Cedar tree	139	02	..	.....	20 yards.
Corner post of fence	220	15	..	.....	4 yards.
Nail in blaze in locust tree (6 inches diameter)	267	59	10	.....	10.44 meters.
REFERENCE STATION	272	51	10	.....	25.09 meters.

GRASON.

General locality.—Southeastern shore of St. Inigoes Creek near Grason Wharf about ⅞ mile northeast of St. Marys River. (See chart No. 24.)

Immediate locality.—Observed station is about 15 feet above high water, 7 yards southeast of edge of bank, 13 yards northwest of a stable, and near three trees.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Cottage" (S. 72° 06′ W.)	0	00	00	.....	⅜ mile.
Near corner of wharf house	26	39	..	.....	130 yards.
Chimney of house	39	56	..	.....	¼ mile.
Nail in blaze in elm tree	93	43	00	.....	13.37 meters.
Chimney of brick house on hill	149	12	..	.....	2 miles.
"Smoke" (west chimney of tenant house)	179	03	20	.....	¼ mile.
Nail in blaze in locust tree (22 inches diameter)	203	09	30	.....	6.40 meters.
Left corner of stable	254	37	..	.....	9.19 meters.
Right corner of stable	303	28	..	.....	12.05 meters.
Chimney of Raley house	333	28	..	.....	⅝ mile.
Left tangent of Priest's Villa	333	54	..	.....	1⅛ miles.
Nail in blaze in cherry tree (18 inches diameter)	352	23	40	.....	12.94 meters.

ROCK.

General locality.—Northwestern shore of St. Inigoes Creek about one-fourth mile north-northwest of Grason Wharf and seven-eighths mile northeast of St. Marys River. (See chart No. 24.)

Immediate locality.—Observed station is on the western side of entrance to a small creek with a wooded shore, about 2 feet above high water, 4 yards north-northwest of shore, and 8 yards east-southeast of a small pool with trees beyond. Cement monument marking reference station is 17.09 meters N. 85° 41′ W. of observed station.

Marks.—Observed station is center of 3-inch square wooden box. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Smoke" (S. 61° 13′ E.)	0	00	00	.....	⅜ mile.
Near peak of roof of barn	14	37	..	.....	⅝ mile.
Near peak of roof of Grason Wharf house	57	35	..	.....	⅜ mile.
Nail in blaze in pine tree (8 inches diameter)	115	28	00	.....	9.95 meters.
Nail in blaze in pine tree (6 inches diameter)	150	23	20	.....	17.24 meters.
REFERENCE STATION	155	32	05	.....	17.09 meters.
Nail in blaze in pine tree (16 inches diameter)	207	52	20	.....	27.45 meters.
Chimney on right end of house	250	08	..	.....	¾ mile.
Chimney of house	333	42	..	.....	½ mile.

SMOKE.

General locality.—Southeastern shore of St. Inigoes Creek about one-fourth mile east of Grason Wharf. (See chart No. 24.)

Immediate locality.—Observed station is on a tenant house which is about 15 feet above high water located about one-fourth mile east of Grason Wharf.

Marks.—Observed station is center of brick chimney on west end of house.

References.—None necessary.

CHESTNUT.

General locality.—Southern shore of Upper St. Inigoes Creek about one-half mile east-northeast of Grason Wharf, near the entrance to an eastern branch of creek, and 1¼ miles northeast of St. Marys River. (See chart No. 24.)

Immediate locality.—Observed station is in a cultivated field fringed by tall trees about 20 feet above high water, 18 yards south of edge of bank, 70 yards southwest of corner of field, 80 yards west-southwest of edge of bank, 95 yards northeast of trees at hollow, 110 yards southwest of a point, and 150 yards east by north of point where rail fence meets trees.

Marks.—Observed station is center point of triangle on standard cement monument with top about 12 inches below surface of ground. Surface mark is center of 3-inch square wooden box.

References.—	°	′	″		
"Smoke" (S. 68° 53′ W.)	0	00	00	.....	¼ mile.
Nail in blaze in pine tree (22 inches diameter)	39	06	50	.....	18.58 meters.
Nail in blaze in cedar tree (18 inches diameter)	68	45	10	.....	16.46 meters.
Nail in blaze in pine tree (14 inches diameter)	105	03	20	.....	21.10 meters.
Tangent of trees	271	00	..	.....	100 yards.
Junction of fences	318	47	50	.....	150 yards.

SLEEP.

General locality.—Northern shore of Upper St. Inigoes Creek on a point between two forks of creek about ½ mile northeast of Grason Wharf and 1¼ miles northeast of St. Marys River. (See chart No. 24.)

Immediate locality.—Observed station is about 1 foot above high water, 6 yards east of shore, 10 yards north of shore, and on line with persimmon trees.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Smoke" (S. 11° 24′ W.)	0	00	00	.....	¼ mile.
Near peak of roof of Grason brick house	21	24	20	.....	½ mile.
Left chimney on higher roof of Raley house	30	55	..	.....	1¼ miles.
Left peak of roof of wharf house	32	37	..	.....	⅝ mile.
Tangent of point opposite Grason	37	52	..	.....	⅝ mile.
Nail in blaze in pine tree (2 inches diameter)	129	34	00	.....	18.25 meters.
Nail in blaze in pine tree (4 inches diameter)	187	28	40	.....	19.89 meters.
Nail in blaze in persimmon tree (9 inches diameter)	209	56	10	.....	4.45 meters.
Tangent of marsh point	244	31	..	.....	150 yards.
Chimney of left ell of house	288	26	..	.....	⅝ mile.

GRIND.

General locality.—Western side of St. Marys River in water just off Windmill Point and opposite entrance to St. Inigoes Creek. (See chart No. 24.)

Immediate locality.—Observed station is in about 4 feet of water, 45 yards east-southeast of extreme end of point and 120 yards northeast of another point. Cement monument marking reference station is among cedar trees 81.36 meters S. 81° 40′ W. of observed station.

Marks.—Observed station is nail in stub in water. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Rod" (S. 37° 47′ E.)	0	00	00	.....	¾ mile.
Left peak of roof between two chimneys on brick house	87	08	..	.....	1½ miles.
Reference station	119	26	50	.....	81.36 meters.
"Water Tower" (near Portobello)	203	25	20	.....	1¼ miles.
Left corner of left chimney on house at Portobello	208	26	..	.....	1⅛ miles.

References—Continued.	°	′	″	
"Calvert Monument"	237	55	10	2⅛ miles.
Near peak of roof of Bromes Wharf house	239	10	..	2 miles.
Right piazza post on Kennedy house	296	34	..	¾ mile.
"St. Inigoes Church Cross"	331	32	30	1¼ miles.
Left peak of roof of Raley house	334	49	..	⅞ mile.

KENNEDY.

General locality.—Eastern shore of St. Marys River about one-eighth mile north of entrance to St. Inigoes Creek and five-eighths mile east-northeast of Windmill Point. (See chart No. 24.)

Immediate locality.—Observed station is in a garden about 25 feet above high water, 30 yards northwest of edge of bank at wire fence, 65 yards west-southwest of a house, 18 yards south of a fence, and 52 yards south of a paling fence. Cement monument marking reference station is in a garden 20.25 meters N. 37° 05′ E. of observed station.

Marks.—Observed station is center of a 3-inch square wooden box. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Rod" (S. 7° 45′ W.)	0	00	00	¾ mile.
Near peak of roof of barn	86	25	..	⅞ mile.
Near peak of roof of building	107	10	..	1½ miles.
Nail in blaze in locust tree (12 inches diameter)	137	45	50	13.21 meters.
REFERENCE STATION	209	20	10	20.25 meters.
Near corner of shed	209	45	..	57 yards.
Left back piazza post	250	21	..	60 yards.
Chimney of cabin	280	09	..	120 yards.
Chimney on top of Raley house	334	04	..	¼ mile.

COPPAGE.

General locality.—Western shore of St. Marys River about one-fourth mile south of entrance to Cooper Creek, and seven-eighths mile northwest of Windmill Point. (See chart No. 24.)

Immediate locality.—Observed station is near densely wooded land about 25 feet above high water, 5 yards southwest of edge of bank, 6 yards south of edge of bank, 10 yards west of point with cedar tree, and 200 yards west of remains of a pier. Cement monument marking reference station is 11.50 meters S. 83° 21′ W. of observed station.

Marks.—Observed station is center of a 3-inch square wooden box with top flush with surface of ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Bello" (N. 42° 11′ E.)	0	00	00	¾ mile.
Chimney of St. Marys Seminary	2	27	..	2 miles.
Near peak of roof of Bromes Wharf house	3	14	..	1⅞ miles.
Chimney of Brome house	10	42	..	1⅞ miles.
Chimney of house	44	40	..	⅞ mile.
Chimney of Kennedy house	69	22	..	1¼ miles.
Left chimney of Raley house	84	09	..	1⅝ miles.
Chimney of Priest's villa	93	06	..	1⅝ miles.
Chimney	96	45	..	⅕ mile.
Nail in blaze in pine tree (3 inches diameter)	185	25	20	7.68 meters.
Nail in blaze in gum tree (3 inches diameter)	216	30	30	10.96 meters.
REFERENCE STATION	221	09	50	11.50 meters.
Nail in blaze in gum tree (12 inches diameter)	290	30	30	7.32 meters.
"Water Tower" (near Portobello)	344	16	00	⅝ mile.

CHAN.

General locality.—Eastern shore of St. Marys River on Chancellor Point about seven-eighths mile north-northwest of entrance to St. Inigoes Creek. (See chart No. 24.)

Immediate locality.—Observed station is on a long point about 3 feet above high water, 10 yards north of side of point, 12 yards south of side of point, 17 yards east of extreme end of point, and near cedar trees. Cement monument marking reference station is 14.14 meters S. 78° 09′ E. of observed station.

Marks.—Observed station is center of a 3-inch square wooden box. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Bello" (N. 37° 29′ W.)	0	00	00	⅝ mile.
Chimney of house	9	56	..	1 mile.
Left peak of roof between two chimneys	24	15	..	1⅛ miles.
Left chimney of house on Pagan Point	40	35	..	1½ miles.
"Calvert Monument"	56	56	40	1⅜ miles.
"Episcopal Church Cross"	58	39	40	1⅜ miles.
Near peak of roof of Bromes Wharf house	58	47	..	1⅜ miles.
Nail in blaze in cedar tree (12 inches diameter)	123	55	20	4.47 meters.
Nail in blaze in cedar tree (15 inches diameter)	137	32	20	31.61 meters.
REFERENCE STATION	139	19	50	14.14 meters.
Nail in blaze in cedar tree (18 inches diameter)	157	56	20	13.99 meters.
Weather vane on barn	262	54	..	¾ mile.
Silo at Portobello	349	29	..	¾ mile.

BELLO.

General locality.—Western shore of St. Marys River on Portobello Point about five-eighths mile north-northwest of Chancellor Point and 1⅛ miles north of Windmill Point. (See chart No. 24.)

Immediate locality.—Observed station is on northeast peak of roof on wharf house at Portobello Landing.

Marks.—Observed station is a flagpole on northeast peak of wharf house.

References.—None necessary.

WATER TOWER (PORTO BELLO).

General locality.—Western side of St. Marys River inshore about one-fourth mile west of Portobello Landing. (See chart No. 24.)

Immediate locality.—Observed station is on a detached structure with a water tank on top.

Marks.—Observed station is center of water tank.

References.—None necessary.

GRAVEL.

General locality.—Eastern shore of St. Marys River about three-eighths mile north-northeast of Chancellor Point, and five-eighths mile east of Portobello Point. (See chart No. 24.)

Immediate locality.—Observed station is on gravel washed up between river and slough about on level with high water, 2 yards north of gravel and marsh line, 33 yards east-northeast of outlet of slough, and 65 yards southwest of point where woods and river meet. Cement monument marking reference station is 26.99 meters N. 86° 03′ E. of observed station.

Marks.—Observed station is nail in stub. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Bello" (N. 77° 54′ W.)	0	00	00	⅝ mile.
Near peak of roof between two chimneys at Portobello	1	58	.. ..	⅝ mile.
House on Pagan Point	71	36	.. ..	1⅛ miles.
Near peak of roof of Bromes Wharf house	95	01	.. ..	1 mile.
"Episcopal Church Cross"	95	12	20	1 mile.
Nail in blaze in pine tree (20 inches diameter)	141	42	30	30.95 meters.
Nail in blaze in pine tree (18 inches diameter)	162	19	00	22.75 meters.
REFERENCE STATION	163	56	40	26.99 meters.
Nail in blaze in pine tree (20 inches diameter)	189	00	40	21.11 meters.
Weather vane on barn	298	12	.. ..	1⅛ miles
Between two chimneys on house near Portobello	358	20	.. ..	¾ mile

McKAY.

General locality.—Western shore of St. Marys River about one-half mile north-northeast of Portobello Point, and five-eighths mile west-southwest of Bromes Wharf. (See chart No. 24.)

Immediate locality.—Observed station is about on level with high water, 14 yards south of a fence extending into water, and at edge of woods. Cement monument marking reference station is 8.12 meters S. 71° 35′ W. of observed station.

Marks.—Observed station is center of a 3-inch square wooden box. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Bello" (S. 23° 16′ W.)	0	00	00	½ mile.
Nail in blaze in locust tree (3 inches diameter)	26	41	40	6.82 meters.
REFERENCE STATION	48	18	55	8.12 meters.
Nail in blaze in gum tree (8 inches diameter)	119	55	00	3.48 meters.
Nail in blaze in willow tree (8 inches diameter)	158	35	20	8.25 meters.
"Calvert Monument"	215	58	30	¾ mile.
"Episcopal Church Cross"	217	55	10	¾ mile.
Near peak of roof on Bromes Wharf house	222	48	.. ..	⅝ mile.
Weather vane on barn	350	55	40	1½ miles.

BROME.

General locality.—Eastern shore of St. Marys River about three-eighths mile south of Bromes Wharf at St. Marys. (See chart No. 24.)

Immediate locality.—Observed station is in edge of woods about 6 feet above high water, 2 yards southeast of shore, and 25 yards from foot of a slope. Cement monument marking reference station is in woods 5.65 meters S. 76° 12′ E. of observed station.

Marks.—Observed station is center of a 3-inch square wooden box with top about flush with surface of ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"McKay" (N. 86° 29′ W.)	0	00	00	¾ mile.
Peak of roof between two chimneys of McKay house	4	08	..	¾ mile.
Peak of barn	46	30	..	¾ mile.
Right chimney of two-story house	47	54	..	¾ mile.
Chimney of small house	60	26	..	½ mile.
Stovepipe of small cabin	63	27	..	½ mile.
Peak of roof of Bromes Wharf house	75	30	..	⅜ mile.
"Episcopal Church Cross"	81	46	..	⅜ mile.
Nail in blaze in chestnut tree	157	16	10	4.32 meters.
REFERENCE STATION	190	17	20	5.65 meters.
Nail in blaze in cherry tree	207	43	30	6.40 meters.
Tangent of Gravelly Point	298	00	..	⅝ mile.
Peak of roof between two chimneys of house at Portobello	333	45	..	1 mile.

DEEP.

General locality.—Western shore of St. Marys River opposite Bromes Wharf on first prominent point south of Pagan Point. (See chart No. 24.)

Immediate locality.—Observed station is about 1 foot above high water, 11 yards southwest of side of point, 12 yards north-northwest of side of point, 17 yards west of extreme end of point, and near several small piles of oyster shells.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Pagan" (N. 0° 42′ W.)	0	00	00	⅜ mile.
Peak of barn	3	05	..	⅜ mile.
Chimney of two-story house	8	35	..	⅜ mile.
Outside chimney of house	55	06	..	½ mile.
Smoke pipe of cabin near monument	68	12	..	½ mile.
Windmill at St. Marys Seminary	72	00	..	½ mile.
"Calvert Monument"	72	10	15	½ mile.
"Episcopal Church Cross"	74	12	00	½ mile.
Peak of roof of Bromes Wharf house	83	25	..	⅜ mile.
Chimney of small house	103	57	..	½ mile.
Nail in blaze in cedar tree	149	58	35	9.01 meters.
Tangent of Chancellor Point	183	00	..	1⅛ miles.
Peak of roof between two chimneys	216	08	..	¾ mile.
Nail in blaze in cedar tree	303	47	20	21.87 meters.

CALVERT MONUMENT.

General locality.—Eastern shore of St. Marys River on high prominent point near site of Old St. Marys. (See chart No. 24.)

Immediate locality.—Observed station is a tall granite shaft erected in memory of Calvert who founded the first settlement of Maryland near this point.

Marks.—Observed station is apex of pyramidal top of shaft of Calvert Monument.

References.—None necessary.

EPISCOPAL CHURCH CROSS (OLD ST. MARYS).

General locality.—Eastern shore of St. Marys River near site of Old St. Marys. (See chart No. 24.)

Immediate locality.—Observed station is on tower of the Episcopal Church at Old St. Marys.

Marks.—Observed station is center of cross on tower of the Episcopal Church.

References.—None necessary.

PAGAN.

General locality.—Western side of upper St. Marys River on Pagan Point opposite site of Old St. Marys. (See chart No. 24.)

Immediate locality.—Observed station is about 30 feet above high water, 120 yards southeast of river, 130 yards southwest of river, 26 yards southwest of a corn crib, 6 yards north of a wire fence, 16 yards south of another wire fence, and 19 yards west of still another wire fence.

Marks.—Observed station is center point of triangle on standard cement monument with top about 10 inches below surface of ground. Surface mark is nail in stub.

References.—

	°	′	″		
"Calvert Monument" (S. 67° 16′ E.)	0	00	00	.....	½ mile.
Near peak of roof of wharf house	8	12	..	.....	½ mile.
Near peak of roof of Brome house	12	03	..	.....	⅝ mile.
Left side of left chimney of McKay house	96	31	..	.....	¾ mile.
Left chimney of large house on hill	191	19	..	.....	1⅛ miles.
Near corner of corn crib	290	21	10	.....	23.11 meters.
Left corner of stable	333	33	10	.....	27.85 meters.
Near corner of stable	348	27	40	.....	24.95 meters.
"Episcopal Church Cross"	358	26	50	.....	½ mile.

BEND.

General locality.—Eastern shore of Horseshoe Bend in the upper St. Marys River about five-eighths mile north-northeast of Calvert Monument and 1 mile east of Horseshoe Point. (See chart No. 24.)

Immediate locality.—Observed station is in a clear space about 15 feet above high water, 16 yards east of shore, 6 yards east of edge of bank, 7 yards east of a road, 12 yards south of trees, 12 yards west of bushes, 16 yards north of trees, and 23 yards northwest of trees.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Calvert Monument" (S. 31° 22′ W.)	0	00	00	.....	⅝ mile.
Near corner of near chimney of McKay house	19	16	..	.....	1⅝ miles.
Chimney on middle of house on Pagan Point	30	50	..	.....	⅞ mile.
End of front peak of Brisco house	55	22	..	.....	1¼ miles.
Near chimney of large house	70	03	..	.....	1⅜ miles.
Nail in blaze in pine tree (3 inches diameter)	131	21	20	.....	10.53 meters.
Nail in blaze in gum tree (9 inches diameter)	178	39	10	.....	18.70 meters.
Nail in blaze in double cedar tree (3 inches diameter)	228	54	30	.....	22.24 meters.
Windmill at St. Marys Seminary	351	48	30	.....	⅝ mile.
Near peak of roof of Commencement Hall at St. Marys	354	57	..	.....	⅝ mile.
"Episcopal Church Cross"	356	22	00	.....	⅝ mile.

WEST HOLLOW.

General locality.—Western shore of upper St. Marys River opposite Horseshoe Point and between Pagan Point and Short Point. (See chart No. 24.)

Immediate locality.—Observed station is in a pasture about 15 feet above high water, 16 yards southwest of edge of bank at shore, 45 yards west by south of extreme end of point, 40 yards northwest of trees in ravine, and 115 yards southeast of trees along edge of field and bank of creek.

Marks.—Observed station is center point of triangle on standard cement monument with top about 1 inch above surface of ground.

References.—

	°	′	″	
"Brief" (N. 10° 30′ E.)	0	00	00	½ mile.
Right chimney of house on hill	1	48	..	1½ miles.
Nail in blaze in oak tree (4 inches diameter)	8	42	20	18.37 meters.
Windmill	24	49	..	1 mile.
Chimney of house	26	01	..	1 mile.
Near corner of chimney of Freeman house	36	07	..	1 mile.
Windmill at St. Marys Seminary	93	50	..	1¼ miles.
Near corner of chimney of small house	112	30	..	200 yards.
Tile smoke pipe of small house	171	20	..	¼ mile.
Nail in blaze in pine tree (6 inches diameter)	281	38	00	94.40 meters.
Nail in blaze in oak tree (6 inches diameter)	324	17	20	32.86 meters.

HORSESHOE.

General locality.—Eastern side of upper St. Marys River about three-eighths mile north-northeast of Horseshoe Point, opposite Short Point, and 1⅛ miles north-northwest of Calvert Monument. (See chart No. 24.)

Immediate locality.—Observed station is in a cultivated field about 25 feet above high water, 175 yards east of shore, 120 yards east of edge of bank, 60 yards northwest of a rail fence and a line of trees, and 165 yards northeast of corner of fence and bank.

Marks.—Observed station is center point of triangle on standard cement monument with top about 12 inches below surface of ground. Surface mark is center of 3-inch square wooden box.

References.—

	°	′	″	
"Calvert Monument" (S. 28° 20′ E.)	0	00	00	1⅛ miles.
Nail in blaze in oak tree (14 inches diameter)	34	20	50	64.12 meters.
Chimney of McCoy house on Lynch Island	149	44	30	1½ miles.
Center front peak of Hilton house	166	43	..	1½ miles.
Near end of gable	239	31	..	¼ mile.
Near corner of near chimney of Freeman house	275	02	..	¼ mile.
Nail in blaze in cedar tree (5 inches diameter)	306	29	20	72.41 meters.
Nail in blaze in cedar tree (4 inches diameter)	354	39	00	51.71 meters.
Right corner of near square pillar at St. Marys Seminary	356	20	..	1⅛ miles.
"Episcopal Church Cross"	358	08	40	1⅛ miles.

BRIEF.

General locality.—Western shore of upper St. Marys River on Short Point about three-eighths mile northwest of Horseshoe Point and one-half mile south of Martin Point. (See chart No. 24.)

Immediate locality.—Observed station is about 10 feet above high water, 17 yards south-southwest of shore, 30 yards south of edge of bank, 45 yards northwest of shore, and 110 yards west of extreme end of point with four cedar trees.

Marks.—Observed station is center point of triangle on standard cement monument with top about 12 inches below surface of ground. Surface mark is center of a 3-inch square wooden box.

References.—

	°	′	″		
"Pagan" (S. 37° 41′ E.)	0	00	00	.....	⅞ mile.
Left corner of near chimney of McKay house	25	14	..	.....	1⅛ mile.
Nail in blaze in oak tree (7 inches diameter)	30	35	10	.....	29.86 meters.
Near corner of near chimney of Hyatt house	130	11	..	.....	¼ mile.
Middle gable of Hilton house	189	01	..	.....	1¼ miles.
Left peak of roof of Hammett house	207	39	..	.....	1¼ miles.
Right peak of roof of Sanders house	230	54	..	.....	1½ miles.
Nail in blaze in oak tree (6 inches diameter)	238	40	10	.....	15.37 meters.
Left corner of chimney outside of Cox house	248	42	..	.....	1½ miles.
Near peak of roof between two outside chimneys	288	44	..	.....	1 mile.
Nail in blaze in oak tree (5 inches diameter)	314	15	50	.....	37.68 meters.
Windmill at St. Marys Seminary	345	07	..	.....	1¼ miles.
Chimney on near end of house on Pagan Point	358	17	..	.....	⅞ mile.

TENUATE.

General locality.—Western shore of upper St. Marys River on Long Point about one-fourth mile northwest of Short Point, three-eighths mile south-southwest of Martin Point, and five-eighths mile northwest of Horseshoe Point. (See chart No. 24.)

Immediate locality.—Observed station is on a point with two cedar trees about 20 feet above high water, 7 yards southeast of edge of bank, 10 yards west-southwest of edge of bank, 13 yards south-southwest of extreme point of bank, and 30 yards northeast of a small negro house.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Calvert Monument" (S. 47° 35′ E.)	0	00	00	.....	1½ miles.
Outside chimney of Hyatt house	26	27	..	.....	¼ mile.
Nail in blaze in cedar tree (10 inches diameter)	68	04	00	.....	13.24 meters.
Left corner of negro house	84	17	..	.....	27.06 meters.
Chimney of negro house	100	58	..	.....	30 yards.
Right corner of negro house	108	12	20	.....	26.15 meters.
Chimney of McCoy house	184	49	..	.....	⅞ mile.
Peak of middle gable of Hilton house	202	03	..	.....	1 mile.
Left chimney of Hammett house	225	37	..	.....	1 mile.
Right chimney of Sanders house	254	27	..	.....	1 mile.
Windmill	296	09	30	.....	1 mile.
Left chimney outside of Freeman house	314	07	..	.....	1 mile.
Windmill at St. Marys Seminary	356	09	..	.....	1⅝ miles.

MARTIN.

General locality.—Eastern shore of upper St. Marys River on Martin Point opposite Long Point about one-half mile north of Short Point, and seven-eighths mile north-northwest of Horseshoe Point. (See chart No. 24.)

Immediate locality.—Observed station is on a point of land about 3 feet above high water, 4 yards east of shore, 7 yards northwest of shore, 12 yards north of extreme end of point, and 30 yards north of cedar trees standing in water.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Calvert Monument" (S. 35° 21′ E.)	0	00	00	.....	1¾ miles.
Nail in blaze in double cedar tree (14 inches diameter)	41	45	10	.....	9.56 meters.
Left chimney of Coombs house	81	52	..	.....	1 mile.
Chimney of McCoy house on Lynch Island	149	01	..	.....	⅞ mile.
Nail in blaze in cedar tree (9 inches diameter)	198	33	10	.....	26.99 meters.
Near side peak of roof on Sanders house	244	06	..	.....	½ mile.
Chimney of house	275	55	..	.....	⅝ mile.
Nail in blaze in cedar tree (4 inches diameter)	306	14	50	.....	3.40 meters.
"Episcopal Church Cross"	358	54	00	.....	1¾ miles.

SOAK.

General locality.—Western shore of upper St. Marys River about one-half mile southeast of Lynch Island and one-half mile west-northwest of Long Point. (See chart No. 24.)

Immediate locality.—Observed station is about 1 foot below high water, 3 yards northeast of bank back of which is a dense growth of pine trees, and 10 yards west of the first point northwest of Long Point. Cement monument marking reference station is 11.02 meters S. 32° 36′ W. of observed station.

Marks.—Observed station is nail in stub with top about 6 inches above bottom of river. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Martin" (N. 78° 17′ E.)	0	00	00	.....	⅝ mile.
Berrill windmill	7	34	..	.....	1¾ miles.
Near peak of roof of Berrill house	10	23	..	.....	1¼ miles.
Chimney of house on Long Point	44	52	..	.....	½ mile.
Nail in blaze in pine tree (8 inches diameter)	92	50	40	.....	16.86 meters.
Nail in blaze in oak tree (20 inches diameter)	132	41	00	.....	12.66 meters.
REFERENCE STATION	134	19	00	.....	11.02 meters.
Nail in blaze in oak tree (15 inches diameter)	187	25	10	.....	17.74 meters.
Outside chimney of Ware house	235	18	..	.....	1½ miles.
Chimney of McCoy house on Lynch Island	252	53	..	.....	½ mile.
Near end of middle gable of Hilton house	269	00	..	....	¾ mile.
Peak of roof between two outside chimneys	302	03	..	.....	¾ mile.
Right chimney of Hammett house	302	51	..	.....	¾ mile.
Near peak of side gable of Sanders house	334	13	..	.....	1⅛ miles.

HAMMETT.

General locality.—Eastern shore of upper St. Marys River on a prominent point about three-eighths of a mile east of Lynch Island and five-eighths of a mile northwest of Martin Point. (See chart No. 24.)

Immediate locality.—Observed station is on edge of cultivated land about 4 feet above high water, 8 yards north of shore, 30 yards east of shore on left line of slough, 7 yards east of a single cedar tree, and 90 yards southeast of trees on other side of point.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Calvert Monument" (S. 41° 32′ E.)	0	00	00	2¼ miles.
Chimney on near end of Garrett house	5	21	..	1⅞ miles.
Chimney outside of Hyatt house	14	31	..	1 mile.
Nail in blaze in cedar tree (3 inches diameter)	99	38	40	6.21 meters.
Chimney outside of McCoy house	143	30	..	⅜ mile.
Left chimney of Hammett house	252	15	..	⅜ mile.
Right peak of roof between two chimneys of Sanders house	259	50	..	1 mile.
Windmill near Berrill	326	23	..	1½ miles.
Left chimney of Berrill house	329	08	..	1½ miles.
Nail in blaze in small persimmon tree	335	20	00	8.39 meters.
Near peak of roof between two chimneys of Freeman house	336	37	..	1⅛ miles.
Windmill at St. Marys Seminary	357	14	50	2¼ miles.
"Episcopal Church Cross"	359	14	50	2¼ miles.

McCOY.

General locality.—Upper St. Marys River on southwestern end of Lynch Island, about seven-eighths of a mile west-northwest of Martin Point. (See chart No. 24.)

Immediate locality.—Observed station is about 10 feet above high water, 10 yards east of shore, 30 yards northwest of shore, 45 yards north of shore at extreme point of island, and 120 yards southwest by south of McCoy camp house.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Calvert Monument" (S. 47° 18′ E.)	0	00	00	2¼ miles.
Chimney of house on Long Point	1	31	..	1 mile.
Left chimney of house on Short Point	4	35	..	1¾ miles.
Nail in blaze in walnut tree (7 inches diameter)	26	49	30	5.73 meters.
Left chimney of Powell house	90	38	..	¾ mile.
Nail in blaze in walnut tree (12 inches diameter)	95	17	20	15.46 meters.
Nail in blaze in walnut tree (7 inches diameter)	182	08	00	8.41 meters.
Nail in blaze in walnut tree (6 inches diameter)	217	16	40	10.34 meters.
Right corner of McCoy house	283	14	30	120 yards.
Near peak of roof between two chimneys on Freeman house	338	02	..	1¾ miles.
Windmill at St. Marys Seminary	357	35	20	2½ miles.
"Episcopal Church Cross"	359	23	30	2½ miles.

SMACK.

General locality.—Southern side of entrance to St. George River on St. George Island opposite Cherryfield Point. (See chart No. 24.)

Immediate locality.—Observed station is about 3 feet above high water, 8 yards south of shore, 30 yards southwest of extreme end of point, 45 yards west of shore, and 4 yards northeast of fence and orchard. Cement monument marking reference station is 6.20 meters S. 13° 27′ E. of observed station.

Marks.—Observed station is nail in stub with top about flush with surface of ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Cherry" (N. 31° 53′ E.)	0	00	00	.....	½ mile.
Chimney of Taylor house	27	55	..	.....	2¼ miles.
"St. Michaels Catholic Church Spire"	58	01	50	.....	5¾ miles.
Near peak of roof of Lewis Hotel at Smith Creek	72	05	30	.....	3¾ miles.
Near peak of roof of long barn on Kitts Point	77	54	..	.....	2⅞ miles.
Chimney of first house on point of island	112	34	..	.....	¼ mile.
REFERENCE STATION	134	39	40	.....	6.20 meters.
Chimney of house	137	32	..	.....	⅛ mile.
Chimney of house	170	38	..	.....	120 yards.
Nail in blaze in peach tree (3 inches diameter)	177	43	50	.....	4.76 meters.
Nail in blaze in peach tree (4 inches diameter)	215	55	10	.....	6.42 meters.
Ball on church	231	25	..	.....	½ mile.
Chimney of house	254	02	..	.....	¾ mile.
Near peak of roof	299	25	..	.....	1⅜ miles.
Chimney of house	328	03	..	.....	2 miles.

CHERRY.

General locality.—Northern side of entrance to St. George River on Cherryfield Point. (See chart No. 24.)

Immediate locality.—Observed station is about 2 feet above high water, 27 yards east of shore, 30 yards north of shore, 30 yards southwest of pine woods, and near several trees.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Smack" (S. 31° 53′ W.)	0	00	00	.....	½ mile.
Cross on Catholic Church	14	52	40	.....	¾ mile.
Chimney of 2½-story house	42	11	..	.....	1 mile.
Left piazza post of Dana Hall	56	38	..	.....	1¼ miles.
Near peak of roof of barn	104	33	..	.....	⅞ mile.
Nail in blaze in pine tree (14 inches diameter)	170	15	30	.....	21.96 meters.
Nail in blaze in pine tree (14 inches diameter)	207	32	50	.....	6.30 meters.
Nail in blaze in pine tree (8 inches diameter)	226	59	40	.....	17.40 meters.
Chimney of house with ell	350	16	..	.....	⅞ mile.
Near chimney of house on opposite point	359	27	..	.....	½ mile.

PRICE.

General locality.—Northern shore of St. George River on eastern side of entrance to Price Creek and about one-half mile north of Cherryfield Point. (See chart No. 24.)

Immediate locality.—Observed station is on a marsh point about 1½ feet above high water, 9 yards southeast of shore, 17 yards north-northeast of shore, 21 yards east-northeast of shore at end of point, and 200 yards west of pine woods on inner edge of marsh.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Smack" (S. 18° 06′ W.)	0	00	00	1 mile.
Chimney on middle of house	32	19	..	1¼ miles.
Right chimney of large house	44	10	..	1⅜ miles.
Chimney on Adams store	46	27	..	1⅜ miles.
Near peak of house with no chimney	48	01	..	1⅜ miles.
Cupola of dance hall	51	15	..	1⅜ miles.
Chimney of small house	53	30	..	1½ miles.
Chimney of small house	54	00	..	1½ miles.
Largest chimney on Milton house	86	04	..	¾ mile.
Peak of Milton barn	92	27	..	¾ mile.
Chimney of small cabin	105	24	..	⅝ mile.
Peak of Thompson house	122	05	..	¾ mile.

ADAMS.

General locality.—Southwestern shore of St. George River on St. George Island about 1 mile west-southwest of Cherryfield Point. (See chart No. 24.)

Immediate locality.—Observed station is in chicken yard about 1 foot above high-water mark, 28 yards southwest of shore, 15 yards southwest of wire fence, 17 yards south of corner of wire fence, 38 yards west-northwest of corner of wire fence, 37 yards north of corner of wire fence, and 30 yards east of corner of wire fence. Cement monument marking reference station is 13.63 meters N. 80° 35′ W. of observed station.

Marks.—Observed station is nail in tree stump 8 inches in diameter. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Cherry" (N. 81° 14′ E.)	0	00	00	1 mile.
Corner post of wire fence	33	42	..	38 yards.
Near peak of roof of large house	64	03	..	¼ mile.
Left chimney of large house with four gables	88	46	..	⅛ mile.
Nail in blaze in pine tree (10 inches diameter)	91	03	20	11.35 meters.
Corner tree of wire fence	98	43	..	37 yards.
Near edge of peak of gable	154	28	..	100 yards.
Nail in blaze in pine tree (10 inches diameter)	155	34	20	21.29 meters.
Corner tree of wire fence	173	20	..	30 yards.
Near corner of chicken house	189	49	..	12.62 meters.
Nail in blaze in pine tree (10 inches diameter)	192	15	10	8.89 meters.
REFERENCE STATION	198	11	30	13.65 meters.
Right chimney of house	207	29	..	⅛ mile.
Pole on pavilion on wharf	228	02	..	¼ mile.
Corner post of wire fence	283	24	..	17 yards.
Near peak of roof between chimneys	312	22	..	1¾ miles.

GOOSE.

General locality.—Northeastern shore of St. George River, about three-fourths mile northwest of Cherryfield Point, and one-fourth mile northwest of entrance to Price Creek. (See chart No. 24.)

Immediate locality.—Observed station is about 1 foot above high-water mark, among cedar, pine, and persimmon trees, 4 yards northeast of edge of lane, 13 yards south of cultivated land beyond trees, and a few yards northwest of four large pine trees at edge of water.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Cherry" (S. 45° 49′ E.)	0	00	00	.....	¾ mile.
Nail in blaze in pine tree (11 inches diameter)	7	36	50	.....	8.08 meters.
Chimney on middle of two and a half story house	69	58	..	.....	⅞ mile.
Near front peak of two and a half story house	74	00	..	.....	⅞ mile.
Chimney of storehouse	94	28	..	.....	⅞ mile.
Smokepipe of cottage near high scant woods	118	53	..	.....	1 mile.
High lone pine tree on St. George Island	134	07	..	.....	1⅛ miles.
Chimney on two and a half story house near Piney Point	145	57	..	.....	2¾ miles.
Nail in blaze in cedar tree (5 inches diameter)	174	06	20	.....	8.74 meters.
Nail in blaze in cedar tree (8 inches diameter)	207	13	00	.....	2.58 meters.
Nail in blaze in cedar tree (6 inches diameter)	290	25	50	.....	5.75 meters.
Right peak of wharf house	263	01	..	.....	1 mile.
Tangent of point	347	47	..	.....	250 yards.

STRAITS.

General locality.—Southwestern shore of St. George River on St. George Island about one-fourth of a mile southeast of St. George Island Straits, and about 1⅞ miles east of Piney Point Light. (See chart No. 24.)

Immediate locality.—Observed station is on marsh land at about 1 foot above high-water mark, 3 yards southeast side of point, 5 yards northwest of side of point, and 19 yards southwest of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Piney Point Light" (N. 88° 05′ W.)	0	00	00	.....	1¾ miles.
Left peak of roof of small house	11	48	..	.....	125 yards.
Near peak of roof of hotel (lightning rod)	42	28	..	.....	½ mile.
Main chimney of house	52	00	..	.....	⅞ mile.
Lone locust tree	96	33	..	.....	¾ mile.
Chimney of large house with four gables	239	42	..	.....	½ mile.
Chimney of house	273	47	..	.....	125 yards.

COMBS.

General locality.—Northeastern side of St. George River on a small island about one-eighth mile off shore and one-half mile east of St. George Island Straits. (See chart No. 24.)

Immediate locality.—Observed station is on marsh land about on level with high water, 7 yards north of extreme end of point, 11 yards west of shore, and 40 yards east-southeast of another point. Cement monument marking reference station is 13.87 meters N. 1° 12′ W. of observed station.

Marks.—Observed station is nail in stake. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Piney Point Light" (S. 84° 52′ W.)	0	00	00	2⅛ miles.
Chimney on right end of Swan Hotel	15	01		⅝ mile.
Right peak of Graves Hotel	21	30		¾ mile.
Left chimney of Robrecht house	33	08		⅞ mile.
Left cedar on Moore Island	39	56		⅜ mile.
Cedar tree	51	41		⅜ mile.
Chimney of Taylor house	56	14		¼ mile.
REFERENCE STATION	93	55	30	13.87 meters.
Lightning rod about on line with chimney	157	56		¼ mile.
Pavilion on wharf	271	03		⅝ mile.

SWAN.

General locality.—Southwestern shore of St. George River about one-eighth of a mile north of St. George Island Straits and 1⅝ miles east of Piney Point Light. (See chart No. 24.)

Immediate locality.—Observed station is in a pasture near a locust tree and three small pine trees about 3 feet above high-water mark, 12 yards south-southeast of shore, 14 yards west of shore, 4 yards west of edge of bank, 10 yards south-southeast of edge of bank, 12 yards south of extreme point of bank, 30 yards southwest of extreme end of point, and 130 yards northeast of a cross on a grave.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Piney Point Light" (S. 82° 14′ W.)	0	00	00	1⅝ miles.
Small chimney of house	43	04		200 yards.
Main chimney of house	67	22		½ mile.
Near chimney of large house	102	20		1⅜ miles.
Near one of two outside chimneys of house	113	12		1 mile.
Nail in blaze in pine tree (2½ inches diameter)	125	54	50	9.77 meters.
Right chimney of house	181	19		¾ mile.
Nail in blaze in pine tree (2 inches diameter)	218	41	30	5.73 meters.
Pavilion on wharf	237	02		¾ mile.
Chimney of house in woods	255	26		⅜ mile.
Nail in blaze in locust tree (20 inches diameter)	288	29	10	3.77 meters.
Cross on grave	317	29	30	132 yards.

TAYLOR.

General locality.—Northeastern shore of St. George River about one-half mile northeast of St. George Island Straits. (See chart No. 24.)

Immediate locality.—Observed station is on solid land back of marsh about 4 feet above high water, 37 yards southeast of shore, 10 yards south-southeast of fence corner, 100 yards east-northeast of a clump of trees, and 125 yards northwest of shore.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Straits" (S. 8° 58′ W.)	0	00	00	½ mile.
Chimney of Swan Hotel	66	01	20	½ mile.
Right chimney of Graves Hotel	79	58		⅝ mile.
Main chimney of Robrecht house	99	11		½ mile.
Nail in blaze in locust tree (12 inches diameter)	113	41	40	7.06 meters.

References—Continued.	°	′	″		
Right chimney of Adams house	123	58	..	.....	1⅛ miles.
Nail in blaze in cedar fence post (4 inches diameter)	130	50	10	.....	8.48 meters.
Left chimney of old 2½-story house	134	46	..	.....	1½ miles.
Chimney of house	285	51	..	.....	90 yards.
Chimney of house with four gables behind long building	338	49	..	.....	1 mile.

ROBRECHT.

General locality.—Southwestern shore of St. George River on a point of land about five-eighths mile north of St. George Island Straits. (See chart No. 24.)

Immediate locality.—Observed station is in a cultivated field about 4 feet above high water, 6 yards west of edge of bank, 35 yards southeast of edge of bank, 70 yards northwest of edge of bank, and 40 yards south by west of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument with top about 10 inches below surface of ground. Surface mark is a 3-inch-square wooden box.

References.—	°	′	″		
"Swan" (S. 14° 42′ E.)	0	00	00	.....	½ mile.
Chimney of pavilion	23	29	..	.....	¼ mile.
Right chimney of Robrecht house	77	03	..	.....	⅜ mile.
Chimney of house	160	10	..	.....	⅝ mile.
Left chimney of old 2½-story house	166	59	..	.....	1½ miles.
Left chimney of house	207	43	..	.....	¾ mile.
Near one of two chimneys on house	225	28	..	.....	⅝ mile.
Near peak of roof of house	312	48	..	.....	½ mile.
Chimney of house in woods	356	31	..	.....	⅝ mile.

TARKHILL.

General locality.—Northeastern side of St. George River, a short distance off shore on a small island about three-fourths mile north of St. George Island Straits. (See chart No. 24.)

Immediate locality.—Observed station is on a small marsh island or tump about 1 foot above high water, 2 yards southwest of edge of island, 3 yards northeast of edge of island, 8 yards northwest of edge of island, and 22 yards southeast of edge of island.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Robrecht" (S. 82° 04′ W.)	0	00	00	.....	⅜ mile.
Chimney of old house	23	20	..	.....	⅞ mile.
Right chimney of Adams house	38	56	..	.....	¾ mile.
Peak of large barn	41	58	..	.....	¾ mile.
Peak of Chadwick house	57	43	..	.....	1⅝ miles.
Peak of house showing over roof of large house	265	22	..	.....	1¼ miles.
Chimney of small cabin	270	33	..	.....	1¼ miles.
Between two chimneys of house	271	05	..	.....	1¼ miles.
Tangent of point	303	00	..	.....	⅝ mile.
Peak of cottage near hotel	335	00	..	.....	⅝ mile.
Left chimney of Robrecht house	354	54	..	.....	½ mile.

RUSSELL.

General locality.—Southwestern shore of upper St. George River about 1⅝ miles northwest of St. George Island Straits. (See chart No. 24.)

Immediate locality.—Observed station is on the edge of a cultivated field about 2 feet above high water, 7 yards northwest of shore, 13 yards west of shore, 40 yards west-northwest of a small marsh point, and 80 yards east of a corner of a fence around yard of house.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Lowell" (N. 51° 05′ E.)	0	00	00	¼ mile.
Between two chimneys of Mac Adams house	18	20	..	¾ mile.
Peak of barn	23	31	..	¾ mile.
Nail in blaze in pine tree	75	46	10	6. 45 meters.
Near chimney of Todd Adams house	223	20	..	90 yards.
Peak of small barn	235	40	..	150 yards.
Peak of large barn	257	05	..	200 yards.
Nail in blaze in small holly tree	288	53	30	7. 94 meters.
Peak of large barn	345	44	..	¾ mile.

LOWELL.

General locality.—Northeastern shore of upper St. George River about 1¼ miles north of St. George Island Straits. (See chart No. 24.)

Immediate locality.—Observed station is in a field about 1 foot above high water, 6 yards northwest of shore, 32 yards northeast of extreme point of shore, and 33 yards east of shore.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Arbuckle" (N. 82° 12′ E.)	0	00	00	⅜ mile.
Peak of barn	5	18	..	½ mile.
Left chimney of Swan Hotel	93	06	..	1 mile.
Chimney of storehouse	95	30	..	¾ mile.
Peak of small barn	98	53	..	½ mile.
Left chimney of Robrecht house	99	51	..	½ mile.
Left lightning rod of Graves house	104	52	..	½ mile.
Near chimney of Adams house	155	47	..	¼ mile.
Peak of large barn	170	08	..	½ mile.
Chimney of Wall house	197	55	..	½ mile.
Nail in blaze in persimmon tree	237	23	10	27. 58 meters.

ARBUCKLE.

General locality.—Northeastern side of upper St. George River about 1⅜ miles north of St. George Island Straits. (See chart No. 24.)

Immediate locality.—Observed station is in a cultivated field about 10 feet above high water, 100 yards northeast of shore, 100 yards north of a ditch, 250 yards west of corner of Adams barn, and 300 yards west by south of Adams house.

Marks.—Observed station is center point of triangle on standard cement monument. (Note: Supposed to be buried with top 12 inches below surface of ground.)

References.—	°	′	″	
"Tarkhill" (S. 6° 54′ E.)	0	00	00	⅝ mile.
Right one of two chimneys on Robrecht house	35	14	..	⅞ mile.
Near peak of roof of William Adams house	78	33	..	⅝ mile.
Tangent of point	86	49	..	⅜ mile.
Near peak of Shehan house	175	05	..	¼ mile.
Between two chimneys on J. M. Adams house	255	02	..	300 yards.
Corner of shed attached to barn	289	02	..	253 yards.
Southwest peak of barn	289	30	..	270 yards.

WALL.

General locality.—Southwestern shore of upper St. George River about 1½ miles north-northwest of St. George Island Straits. (See chart No. 24.)

Immediate locality.—Observed station is in a field about 3 feet above high water, 7 yards southwest of shore, 45 yards southeast of shore, 40 yards east of shore of cove, 35 yards east of an oak tree, and 200 yards northwest of a house.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Lowell" (S. 76° 47′ E.)	0	00	00	½ mile.
Chimney of Wall house	9	14	..	200 yards.
Peak of barn	35	48	..	250 yards.
Outside chimney of house	155	40	..	1 mile.
Left chimney of house	189	00	..	1½ miles.
Large chimney of 1½-story house	201	44	..	1½ miles.
East peak of barn	242	11	..	1¾ miles.
Left chimney of Chadwick house	244	24	..	½ mile.
Outside chimney of house	257	04	..	¾ mile.
Nail in blaze in cedar tree (2 feet diameter)	261	08	..	5. 28 meters.
Chimney of house across creek	328	27	..	1 mile.
Southwest peak of barn	352	00	..	1 mile.

SHEHAN.

General locality.—Northeastern shore of upper St. George River about 1⅝ miles northwest of St. George Island Straits. (See chart No. 24.)

Immediate locality.—Observed station is on solid ground about 2 feet above high water, 8 yards east of shore, 40 yards northwest of shore, 30 yards north-northeast of extreme end of point, 50 yards west of an old rail fence, and north-northwest of marsh between shore and station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Lowell" (S. 36° 10′ E.)	0	00	00	⅜ mile.
Chimney of Robrecht house	27	34	..	1⅛ miles.
Lightning rod of Adams house	38	32	..	½ mile.
Chimney of house	44	13	..	½ mile.
Peak of Wall house	62	28	..	⅜ mile.
Peak of house	96	00	..	¾ mile.
Peak of large barn	121	25	..	½ mile.
Tangent of point up creek	162	50	..	¼ mile.
Nail in blaze in small pine tree	254	08	50	20. 32 meters.

CHADWICK.

General locality.—Northeastern shore of upper St. George River on a prominent point between a cove and creek about 2 miles north-northwest of St. George Island Straits. (See chart No. 24.)

Immediate locality.—Observed station is on edge of an old field about 2 feet above high water, 9 yards northeast of shore, 18 yards northwest of extreme end of point, 80 yards south-southeast of a 2½-story house, and 75 yards from several apple trees.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Wall" (S. 11° 24′ E.)	0	00	00	½ mile.
South peak of barn	14	24	..	¾ mile.
Chimney of house	27	16	..	¾ mile.
Chimney of house on opposite shore	30	49	..	½ mile.
Chimney of house among trees on opposite shore	36	10	..	½ mile.

References—Continued.

	°	′	″	
Southwest peak of barn	30	52	..	⅛ mile.
Chimney of house near woods	88	28	..	¾ mile.
Nail in blaze in locust tree	137	55	50	3.82 meters.
Near corner of house	171	46	..	81 yards.
South corner of house	212	17	..	½ mile.

GUITHER.

General locality.—Southwestern shore of upper St. George River about 2 miles northwest of St. George Island Straits. (See chart No. 24.)

Immediate locality.—Observed station is in a grassy field about 2 feet above high water, directly opposite Chadwick farm house, 12 yards northwest of shore, 18 yards south of shore, and 35 yards southwest of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Chadwick" (N. 58° 50′ E.)	0	00	00	¼ mile.
Nail in blaze in cedar tree	34	37	30	7.05 meters.
Nail in blaze in cedar tree	63	31	50	8.92 meters.
Chimney on Wall house	80	36	..	⅞ mile.
Northeast peak of barn	86	50	..	¾ mile.
Near peak of barn	104	11	..	¼ mile.
Peak of barn	120	12	..	¼ mile.
Chimney of small house	206	51	..	½ mile.
Chimney of 1½-story house	286	20	..	1¼ miles.
Between two chimneys of house on Chadwick farm	345	16	..	¼ mile.

ST. GEORGE 4.

General locality.—Northeastern shore of Potomac River about one-eighth mile north of southern end of St. George Island and one-half mile west-southwest of entrance to Island Creek. (See chart No. 24.)

Immediate locality.—Observed station is on grassy sand about 3 feet above high water, 1 yard northeast of shore, 200 yards northwest by west of extreme end of point, and 150 yards southeast of another point. Standard cement monument marking reference station of 1909 is 26.41 meters N. 42° 16′ E. of observed station. Reference station No. 1 (tile pipe set in cement) is 31.58 meters N. 14° 30′ E. of observed station. Reference station No. 2 (tile pipe set in cement) is 48.98 meters N. 59° 27′ E. of observed station.

Marks.—Observed station is ¼-inch iron pipe in 3-inch tile pipe set in cement with top about 12 inches below surface of ground. Surface mark is nail in stub. Reference station of 1909 is center point of triangle on standard cement monument. Reference station No. 1 is center of 3-inch tile pipe set in cement with top 3 inches above surface of ground. Reference station No. 2 is center of a 3-inch tile pipe set in cement with top about flush with surface of ground.

References.—

	°	′	″	
"Piney Point Light" (N. 52° 48′ W.)	0	00	00	3¾ miles.
Nail in blaze in pine tree (4 inches diameter)	39	12	50	19.44 meters.
Reference station No. 1 (tile)	67	18	00	31.58 meters.
Reference station (cement monument)	95	03	35	26.41 meters.
Nail in blaze in pine tree (5 inches diameter)	105	41	10	26.56 meters.
Reference station No. 2 (tile)	112	15	25	48.98 meters.
Tall pine tree on Kitts Point	137	43	40	2⅞ miles.
Left chimney of large colonial house on Virginia shore	287	13	..	4¼ miles.

PINEY POINT LIGHT.

General locality.—Northeastern shore of Potomac River on Piney Point about 5 miles northwest of entrance to St. Marys River. (See chart No. 24.)

Immediate locality.—Observed station is on a tower near a dwelling and a fog-bell tower.

Marks.—Observed station is center point of a lantern on a tower about 30 feet high.

References.—

	°	′	″		
"Blakistone Island Light" (N. 67° 02′ W.)	0	00	00	.....	12½ miles.

FOXWELL.

General locality.—Northeastern shore of upper Bretons Bay about one-half mile east-southeast of Leonardtown Wharf and 1¼ miles north of entrance to Mouldy Creek. (See chart No. 25.)

Immediate locality.—Observed station is about 6 feet above high water, 12 yards northwest of shore, 2 yards from a 3-foot bank, 12 yards south of an orchard, and 25 yards east of a house.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Valley" (S. 65° 19′ E.)	0	00	00	.....	⅜ mile.
East gable of Duke house	114	28	..	.....	¼ mile.
Nail in blaze in paulownia stump	129	59	40	.....	8.50 meters.
East gable of Foxwell house	149	24	..	.....	25 yards.
Southeast chimney of Key house	211	06	..	.....	½ mile.
Chimney of small house	239	46	..	.....	¼ mile.
South chimney of large 2-story house	277	43	..	.....	½ mile.
Nail in blaze in paulownia tree (5 inches diameter)	320	17	30	.....	4.42 meters.
Spike in old wharf pile about 6 inches above ground	355	47	40	.....	15.00 meters.

VALLEY.

General locality.—Northeastern shore of bend in upper Bretons Bay about three-fourths mile east-southeast of Leonardtown Wharf and 1¼ miles north-northeast of entrance to Mouldy Creek. (See chart No. 25.)

Immediate locality.—Observed station is on a narrow strip of marsh about 1 foot above high water, 15 yards east of high water, and 100 yards south of a cultivated field.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Corn" (S. 28° 02′ W.)	0	00	00	.....	⅜ mile.
East gable of Duke house	50	02	..	.....	¾ mile.
East chimney of Foxwell house	84	57	..	.....	⅜ mile.
South chimney of large 2-story house	116	27	..	.....	⅜ mile.
South gable of house on hill	171	08	..	.....	¼ mile.
Smokestack on sawmill	210	35	..	.....	¾ mile.
Northwest chimney of old farmhouse	335	38	..	.....	½ mile.

BUZZARD.

General locality.—Western shore of upper Bretons Bay on a prominent point in bend in bay about ¼ mile southeast of Leonardtown Wharf, and 1 mile north of entrance to Mouldy Creek. (See chart No. 25.)

Immediate locality.—Observed station is about 1 foot above high water, 7 yards northwest of shore, 10 yards southeast of shore, 80 yards west-northwest of a point, and 10 yards east of foot of a slope.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Foxwell" (N. 18° 28′ E.)	0	00	00	¼ mile.
South chimney of two-story house	5	18	..	½ mile.
West chimney of two-story house	33	02	..	¾ mile.
Southwest chimney of one-story house	112	52	..	½ mile.
South gable of wharf house	302	58	..	⅝ mile.
Cupola on Catholic Academy	342	32	40	1 mile.
West chimney of Foxwell house	355	26	..	¼ mile.

CORN.

General locality.—Eastern shore of upper Bretons Bay on second prominent point north of Mouldy Creek about ⅞ mile southeast of Leonardtown Wharf, and 1½ miles northeast of entrance to Mouldy Creek. (See chart No. 25.)

Immediate locality.—Observed station is inside of a rail fence at the edge of a cultivated field about 3 feet above high water, 10 yards from shore, and ¼ mile northwest of a one and one-half story farmhouse.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Cedar" (S. 29° 46′ W.)	0	00	00	¼ mile.
Chimney of small two-story house	52	40	..	½ mile.
East gable of Duke house	91	30	..	½ mile.
South gable of wharf house	110	40	..	⅞ mile.
Southwest chimney of Key house	128	33	..	⅞ mile.
South gable of Foxwell house	136	28	..	½ mile.
Cross on Catholic Academy	142	50	10	1½ miles.
South gable of house on hill	174	58	..	¾ mile.
Smokestack of sawmill	195	39	10	1 mile.
West chimney of small two-story house	218	25	..	¼ mile.
Near chimney of old farmhouse	290	00	..	¼ mile.

CEDAR.

General locality.—Eastern shore of upper Bretons Bay on first prominent point north of entrance to Mouldy Creek. (See chart No. 25.)

Immediate locality.—Observed station is on a marsh point about 2 feet above high water, 15 yards east of shore, 50 yards north of a cultivated field bounded by rail fence and small cedar trees, and directly in front of a dense growth of small cedar trees and myrtle bushes.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Pine" (S. 10° 40′ E.)	0	00	00	¼ mile.
Nail in blaze in cedar tree (6 inches diameter)	24	41	00	31.91 meters.
Nail in blaze in cedar tree (8 inches diameter)	55	37	10	21.30 meters.
North chimney of small house	129	59	..	⅜ mile.
South gable of Duke house	160	20	..	½ mile.
Southwest chimney of Key house	180	02	..	1¼ miles.
Cross on Catholic Academy	189	02	20	1¾ miles.
Nail in blaze in cedar tree (3 inches diameter)	255	08	00	5.81 meters.
Nail in blaze in cedar tree (3 inches diameter)	273	57	10	2.47 meters.
Nail in blaze in cedar tree (4 inches diameter)	326	52	00	3.45 meters.

NONAME.

General locality.—Northwestern shore of upper Bretons Bay on a point about one-half mile northwest of entrance to Mouldy Creek, and 1 mile northeast of Lovers Point. (See chart No. 25.)

Immediate locality.—Observed station is about 3 feet above high water, near six old piles, 13 yards northwest of shore, 13 yards southwest of shore, 17 yards northeast of shore, and 80 yards south of a fringe of pine trees.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Buzzard (N. 31° 23′ E.)	0	00	00	½ mile.
West gable of old farmhouse	45	49	..	½ mile.
Nail in blaze in old pile	82	37	00	12.70 meters.
West gable of two-story house	106	26	..	⅝ mile.
Chimney of two-story house	164	01	..	½ mile.
Nail in blaze in gum tree (6 inches diameter)	200	53	40	9.72 meters.
West chimney of house	206	51	..	½ mile.
Nail in blaze in locust tree (3 inches diameter)	258	14	00	2.63 meters.

BELLE.

General locality.—Northwestern shore of upper Bretons Bay about one-half mile north-northeast of Lovers Point, and five-eighth mile west-northwest of entrance to Mouldy Creek. (See chart No. 25.)

Immediate locality.—Observed station is in a cultivated field about 3 feet above high water, 9 yards northwest of shore, 50 yards south by west of a clump of trees, and 65 yards southeast by east and almost in line with northeast side of a house.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Noname" (N. 52° 11′ E.)	0	00	00	⅜ mile.
Left corner of left chimney of house	15	22	..	1 mile.
Right chimney of house on hill	39	35	..	1½ miles.
Near peak of roof of house	53	27	..	¾ mile.
Chimney on middle of double house	118	14	..	½ mile.
Right chimney of house	134	26	..	⅝ mile.
Chimney of large house next to wharf	147	49	..	⅝ mile.
Left of left chimney of Adams house	255	03	40	65 yards.
Chimney of house	348	00	..	½ mile.

PINE.

General locality.—Eastern shore of upper Bretons Bay about one-fourth mile north-northeast of entrance to Mouldy Creek. (See chart No. 25.)

Immediate locality.—Observed station is back of a tree-fringed shore in a field about 10 feet above high water, 7 yards east of edge of bluff, and 6 yards east of a rail fence.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Mouldy" (S. 46° 52′ W.)	0	00	00	⅜ mile.
South gable of Duke house	109	35	..	⅞ mile.
Nail in blaze in cedar tree (4 inches diameter)	190	00	20	9.03 meters.
Nail in blaze in persimmon tree (4 inches diameter)	211	06	40	17.43 meters.
Nail in blaze in pine tree (5 inches diameter)	336	04	00	5.72 meters.

HEALEY.

General locality.—Northwestern shore of Bretons Bay on point opposite Abells Wharf and about three-eighths mile north-northeast of Lovers Point. (See chart No. 25.)

Immediate locality.—Observed station is about 12 feet above high water, 6 yards east of edge of bank, 6 yards north of edge of bank, 35 yards west of point where rail fence and water meet, 65 yards southwest of corner of fence, 200 yards southeast of cedar trees, and 250 yards south-southeast of pine trees.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Lovers" (S. 0° 03′ E.)	0	00	00	½ mile.
Chimney of large house near wharf	7	40	..	¼ mile.
Near chimney of house	31	42	..	1⅛ miles.
Nail in blaze in cedar tree (4 inches diameter)	64	46	40	6.02 meters.
Nail in blaze in twisted cedar tree (4 inches diameter)	105	20	20	10.33 meters.
Nail in blaze in persimmon tree (8 inches diameter)	129	26	10	16.41 meters.
Chimney of house on hill	199	30	..	400 yards.
Near chimney of house on knoll	234	04	..	150 yards.
Left chimney of house on hill	269	09	..	2 miles.
Chimney on right end of house	305	14	..	½ mile.
Chimney of double house	334	39	..	½ mile.
Windmill	352	59	..	⅝ mile.
Water tank	354	12	..	⅝ mile.
Right chimney of house	354	35	..	⅝ mile.

MOULDY.

General locality.—Southeastern shore of Bretons Bay on a point about 100 yards west of entrance to Mouldy Creek. (See chart No. 25.)

Immediate locality.—Observed station is about 6 yards south of edge of a 25-foot bluff, 17 yards from high water, 25 yards north of a cultivated field, 50 yards west of a clump of cedar trees, and 100 yards west of entrance to Mouldy Creek.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Beau" (N. 88° 13′ W.)	0	00	00	⅜ mile.
South chimney of two-story house	24	30	..	¾ mile.
Chimney of small two-story house	34	13	..	¾ mile.
South gable of Duke house	81	33	..	1 mile.
Cross on Catholic Church	91	14	40	2¼ miles.
Cross on Catholic Academy	91	30	30	2¼ miles.
South gable of Foxwell house	96	08	..	1¼ miles.
South chimney of two-story house	99	56	..	1⅜ miles.
Nail in blaze in ash tree (18 inches diameter)	109	38	30	63.32 meters.
Southwest chimney of one-story farmhouse	123	57	..	1 mile.
Nail in blaze in oak tree (2 feet diameter)	165	53	10	52.09 meters.
Center of windmill	175	57	30	⅜ mile.
Nail in blaze in ash tree (14 inches diameter)	181	24	30	54.35 meters.
West chimney of large farmhouse	248	29	..	½ mile.
Top of windmill	321	39	30	1½ miles.

BEAU.

General locality.—Southeastern shore of Bretons Bay on first prominent point northeast of Lovers Point about three-eighths mile west of the entrance to Mouldy Creek. (See chart No. 25.)

Immediate locality.—Observed station is about 1 foot above high water, 9 yards south of shore, 10 yards east of shore, 10 yards northwest of a small shanty, and 11 yards south-southeast of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Mouldy" (S. 88° 14′ E.)	0	00	00	.....	⅜ mile.
Nail in blaze in double cedar tree (10 inches diameter)	14	05	00	.....	5.24 meters.
Nail in blaze in cedar tree (8 inches diameter)	41	48	30	.....	6.20 meters.
Left corner of shanty	50	11	00	.....	8.78 meters.
Nail in blaze in cedar tree (10 inches diameter)	72	34	10	.....	5.04 meters.
Right corner of shanty	83	51	10	.....	9.89 meters.
Chimney on middle of house	118	27	..	.....	½ mile.
Chimney on south end of house at wharf	137	20	..	.....	½ mile.
Chimney of Adams house	229	33	..	.....	½ mile.
Chimney on middle of house on hill	247	07	..	.....	¾ mile.
Peak of near gable of Duke house	281	13	..	.....	¾ mile.
Near peak of gable of house	302	36	..	.....	1⅞ miles.
Left chimney of house	346	10	..	.....	¾ mile.
Near peak of gable of house	355	55	..	.....	⅝ mile.

HOLLOW.

General locality.—Western shore of Bretons Bay, about one-half of a mile northwest of Lovers Point and seven-eighths mile northeast of Paw Paw Point. (See chart No. 25.)

Immediate locality.—Observed station is at the side of a ravine about 2 feet above high water, 4 yards northwest of shore, 5 yards southeast of foot of a bank, and northeast of cedar trees.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Healey" (N. 77° 52′ E.)	0	00	00	.....	¼ mile.
Chimney on middle of double house	39	42	..	.....	¾ mile.
Right chimney of house	55	39	..	.....	¾ mile.
Water tank	56	14	..	.....	¾ mile.
Chimney of house	71	44	..	.....	1¼ miles.
Nail in blaze in cedar tree (7 inches diameter)	153	12	50	.....	15.41 meters.
Nail in blaze in cedar tree (8 inches diameter)	193	43	00	.....	19.94 meters.
Nail in blaze in white-oak stump (18 inches diameter)	285	30	10	.....	4.87 meters.
Right chimney of Adams house	355	11	..	.....	½ mile.

TREES.

General locality.—Western shore of Bretons Bay, about three-eighths of a mile west of Lovers Point and five-eighths mile northeast of Paw Paw Point. (See chart No. 25.)

Immediate locality.—Observed station is at edge of a cultivated field about 5 feet above high water, 15 yards west of shore, 3 yards back from edge of a bank 3 feet high, and 200 yards from a pine woods

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Hollow" (N. 2° 51′ W.)	0	00	00	.....	⅜ mile.
West gable of 2-story house	57	21	..	.....	½ mile.
Nail in blaze in cedar tree (4 inches diameter)	89	24	00	.....	.....
Chimney of 2-story house	104	05	..	.....	¾ mile.
Nail in blaze in cedar stump (3 inches diameter)	117	10	30	.....	.....
Middle chimney on large 2-story house	120	29	..	.....	⅝ mile.
Nail in blaze in cherry tree (10 inches diameter)	213	10	40	.....	.....

LOVERS.

General locality.—Southeastern shore of Bretons Bay, about one-eighth of a mile southeast of Lovers Point and 1 mile east of Paw Paw Point. (See chart No. 25.)

Immediate locality.—Observed station is about 4 feet above high water, 15 yards south of shore, 6 yards north of a road leading to a wharf, 50 yards north-northwest of a 1½-story house, and 100 yards east of small store with an adjoining dwelling.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Trees" (N. 67° 47′ W.)	0	00	00	.....	¼ mile.
North gable of wharf house	17	31	..	.....	80 yards.
Near chimney of 2-story house	77	47	..	.....	1 mile.
Chimney of 2-story house	114	31	..	.....	½ mile.
Chimney of 2-story house	144	11	40	.....	¼ mile.
Chimney of 1½-story house	162	45	40	.....	¼ mile.
Chimney of 1½-story house	188	50	..	.....	51 yards.
Middle chimney of large 2-story house	212	30	..	.....	⅛ mile.
North gable of large barn	232	59	10	.....	⅛ mile.
Chimney of store	355	16	..	.....	100 yards.

PAW.

General locality.—Northwestern shore of Bretons Bay on Paw Paw Point, about 1 mile west-southwest of Lovers Point and three-fourths mile east of Cherry Cove. (See chart No. 25.)

Immediate locality.—Observed station is on marsh land near two cedar trees about 1 foot above high water, 7 yards southeast of shore, 18 yards west by north of extreme end of point, 28 yards northeast of another point, 50 yards south-southwest of several cedar trees, and 75 yards southeast of a cultivated field.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"What" (S. 20° 00′ E.)	0	00	00	.....	¾ mile.
Left chimney of house	14	00	..	.....	⅞ mile.
Right corner of right chimney of priest's house	103	46	..	.....	1⅞ miles.
"Catholic Church Cross (Newtown Neck)"	104	28	50	.....	1⅞ miles.
Nail in blaze in cedar tree (7 inches diameter)	177	34	00	.....	0.13 meters.
Nail in blaze in water bush (3 inches diameter)	204	51	00	.....	8.79 meters.
Nail in blaze in cedar tree (6 inches diameter)	220	42	20	.....	4.77 meters.
Left corner of left chimney of house	262	04	..	.....	2⅞ miles.
Near corner of chimney at Abells Wharf	279	42	..	.....	1 mile.
Right chimney of house	286	10	..	.....	1⅛ miles.
Water tank	287	02	..	.....	1⅛ miles.
Left peak of roof of large house	310	32	..	.....	1 mile.

WHAT.

General locality.—Southeastern shore of Bretons Bay, on first prominent point southwest of Lovers Point, about three-fourths of a mile south-southeast of Paw Paw Point. (See chart No. 25.)

Immediate locality.—Observed station is about 20 feet above high water, 9 yards south of edge of bank, 4 yards east of a fence, 85 yards northeast of a fence at creek, 300 yards northeast of a large barn on other side of creek, and east to northeast of trees.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Protestant" (N. 87° 05′ W.)	0	00	00	¾ mile.
Near peak of roof of priest's house	10	30	.. ..	2¼ miles.
"Catholic Church Cross (Newtown Neck)"	10	52	10	2¼ miles.
Near peak of roof between two chimneys of house	28	26	.. ..	1⅝ miles.
Peak of front gable of Duke house	78	53	.. ..	1⅜ miles.
Nail in blaze in sassafras tree (4 inches diameter)	122	49	00	8.04 meters.
Nail in blaze in persimmon tree (7 inches diameter)	146	12	40	7.47 meters.
Nail in blaze in persimmon tree (6 inches diameter)	169	14	50	7.58 meters.
Chimney of old house	270	19	.. ..	250 yards.
Left peak of large barn	289	10	.. ..	300 yards.
Right peak of roof of house with two chimneys	320	38	.. ..	300 yards.

CHERRY COVE.

General locality.—Northwestern shore of Bretons Bay, about 2 miles north-northeast of Higgins Point and one-eighth mile west-southwest of entrance to Cherry Cove. (See chart No. 25.)

Immediate locality.—Observed station is in a field about 15 feet above high water, 12 yards north of edge of bank, 17 yards west-southwest of near corner of a 2-story house, 23 yards west-northwest of a point, 25 yards west of edge of bank, and 27 yards southwest by south of a wire fence around a garden.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Compton" (S. 73° 49′ W.)	0	00	00	⅞ mile.
Peak of tin roof of priest's house	0	39	.. ..	1⅛ miles.
"Catholic Church cross (Newtown Neck)"	2	13	40	1⅛ miles.
Near peak of roof of large house	28	46	20	⅜ mile.
Tangent of point of bank on opposite side of Cherry Cove	119	52	.. ..	⅜ mile.
Left chimney of house	131	40	.. ..	1⅛ miles.
Nail in blaze in corner fence post (3 inches diameter)	145	17	00	26.46 meters.
Left corner of house	166	14	20	19.95 meters.
Near corner of house	177	51	50	17.14 meters.
Right corner of house	188	05	20	24.94 meters.
Left corner of large house near Abells Wharf	196	01	.. ..	2 miles.
Water tank	196	38	.. ..	2 miles.
Chimney of large house	228	19	.. ..	2 miles.
Chimney of large house	240	39	.. ..	1¾ miles.
Cupola on building in woods	276	42	.. ..	1¼ miles.

PROTESTANT.

General locality.—Southeastern shore of Bretons Bay on Protestant Point opposite Cherry Cove about 1⅞ miles east-northeast of Kaywood Point. (See chart No. 25.)

Immediate locality.—Observed station is on a sand bar about 2 feet above high water, 26 yards north of shore, 35 yards east by south of a cedar tree, and 35 yards northwest of entrance to a creek. Cement monument marking reference station is 29.12 meters S. 56° 29′ E. of observed station.

Marks.—Observed station is nail in stub with top about 12 inches above surface of sand. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Cherry Cove" (N. 21° 54′ W.)	0	00	00	⅞ mile.
Chimney of house	0	50	..	⅞ mile.
Left chimney of house	27	44	..	1¾ miles.
Peak of front gable of Duke house	45	08	..	1½ miles.
Chimney of Adams house	71	32	..	2¼ miles.
Chimney outside of house at Abells Wharf	82	37	..	1¾ miles.
Water tank	87	58	..	1¾ miles.
Left chimney of house	126	59	..	¾ mile.
REFERENCE STATION	145	24	35	29.12 meters.
Nail in blaze in cedar tree (7 inches diameter)	145	54	20	39.51 meters.
Nail in blaze in oak tree (7 inches diameter)	173	48	10	28.84 meters.
Nail in blaze in oak tree (20 inches diameter)	204	06	30	23.34 meters.
"Catholic Church Cross (Newtown Neck)"	311	47	00	1⅛ miles.
Chimney on middle of roof of house	336	32	..	1 mile.

FENCE.

General locality.—Southeastern shore of Bretons Bay opposite Compton about 1⅝ miles northeast of Kaywood Point at entrance to Bay. (See chart No. 25.)

Immediate locality.—Observed station is about 12 feet above high water, 3 yards southeast of edge of bank, 70 yards southwest of locust trees, and in front of cedar and sassafras trees. Cement monument marking reference station is 12.87 meters S. 25° 41′ E. of observed station.

Marks.—Observed station is nail in stub. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Compton" (N. 41° 30′ W.)	0	00	00	1⅛ miles.
Near corner of large outside chimney of house	6	24	..	1⅜ miles.
Near peak of roof of house	32	56	..	1¼ miles.
Chimney of house	48	47	..	1½ miles.
Largest chimney of Duke house	72	15	..	1¾ miles.
Nail in blaze in apple tree (16 inches diameter)	144	58	50	59.59 meters.
Large chimney of building among trees	186	31	..	⅛ mile.
Nail in blaze in persimmon tree (4 inches diameter)	195	36	00	19.97 meters.
REFERENCE STATION	195	48	55	12.87 meters.
Nail in blaze in cedar tree (2 inches diameter)	232	51	20	18.10 meters.
Chimney on middle of house	294	55	..	1 mile.
Near end of near chimney of priest's house	352	57	..	1¼ miles.

COMPTON.

General locality.—Western shore of Bretons Bay on Newtown Neck about three-eighths mile south-southwest of entrance to Combs Creek, and 1⅝ miles north of Kaywood Point. (See chart No. 25.)

Immediate locality.—Observed station is in the corner of a field adjoining a large brick house about 20 feet above high water, 75 yards west of shore, 75 yards south of shore, 2 yards south of a fence, 3 yards west of another fence, and 400 yards east-northeast of a church and a house.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Sand bar" (S. 5° 04′ W.)	0	00	00	⅝ mile.
Near peak of tin roof of priest's house	72	50	..	400 yards.
"Catholic Church Cross (Newtown Neck)"	81	07	00	400 yards.
Nail in blaze in cedar fence post (8 inches diameter)	131	39	30	5.03 meters.
Flagstaff of Compton post office	196	27	..	½ mile.
Chimney of store	197	00	..	½ mile.
Nail in blaze in cedar fence post (4 inches diameter)	219	07	00	2.01 meters.
Chimney on roof of house	248	42	..	⅞ mile.
Cupola on stable	308	03	..	1⅛ miles.
Nail in blaze in cedar tree (4 inches diameter)	334	19	40	9.59 meters.

SANDBAR.

General locality.—Western shore of Bretons Bay on Newtown Neck about 1⅛ miles north of Kaywood Point and 1¼ miles south of Combs Creek. (See chart No. 25.)

Immediate locality.—Observed station is on a sand spit between bay and small pond about 1 foot above high water, 6 yards north of a point of trees, 75 yards west by north of a sand bar visible at low water, and 85 yards south of another point.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Newtown" (S. 8° 45′ W.)	0	00	00	½ mile.
Nail in blaze in holly tree (3 inches diameter)	14	06	50	7.08 meters.
Nail in blaze in pine tree (7 inches diameter)	36	06	10	5.96 meters.
Nail in top of 1½-inch stub	157	31	50	12.08 meters.
Left corner of left chimney of priest's house	158	57	..	⅝ mile.
Flagstaff of Compton post office	181	21	..	1 mile.
Chimney of house with several gables	184	37	..	1 mile.
Left peak of tin roof	205	03	..	1 mile.
Chimney of house	218	48	..	1¼ miles.
Right chimney of house near Abells Wharf	244	56	..	3 miles.
Water tank at Abells Wharf	245	16	..	3 miles.
Nail in blaze in holly tree (3 inches diameter)	356	11	00	4.62 meters.

DUNE.

General locality.—Eastern shore of Bretons Bay about five-eighths mile north of Higgins Point and 1⅛ miles northwest of Kaywood Point. (See chart No. 25.)

Immediate locality.—Observed station is on a sanded grassy knoll about 4 feet above high water, 4 yards southeast of edge of bank, 8 yards northwest of foot of sand slope, 20 yards northeast of first tree in scant woods, 25 yards northwest of edge of woods, 55 yards west-southwest of a large pine tree at point of woods, and 75 yards east-northeast of a mud hole.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Blakistone Island Light" (S. 53° 42′ W.)	0	00	00	3⅞ miles.
Chimney of house	28	43	..	¾ mile.
"Catholic Church Cross (Newtown Neck)"	89	39	20	1¼ miles.
Right tangent of right chimney of priest's house	90	18	40	1¼ miles.
Right peak of roof of railway building	114	03	..	1½ miles.
Right peak of roof between two chimneys of house	127	00	..	1⅜ miles.
Nail in blaze in pine tree (12 inches diameter)	189	58	30	47.76 meters.
Nail in blaze in oak tree (6 inches diameter)	245	56	00	19.77 meters.
Nail in blaze in oak tree (11 inches diameter)	342	10	20	16.78 meters.

NEWTOWN.

General locality.—Western shore of Bretons Bay about one-half mile north of Kaywood Point and seven-eighths mile northwest of Higgins Point. (See chart No. 25.)

Immediate locality.—Observed station is about 12 feet above high water, surrounded by a fence, 9 yards west-northwest of edge of bank, 9 yards southwest of corner of fence, 10 yards north-northeast of corner of fence, 13 yards east of corner of fence, 14 yards south-southeast of corner of fence, 30 yards south-southwest of several trees, 60 yards southwest of a ditch, 75 yards south-southeast of a pond, and 85 yards southwest of a point.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Dune" (N. 85° 43′ E.)	0	00	00	⅝ mile.
Main chimney of house	153	57	..	200 yards.
Nail in blaze in cedar tree (3 inches diameter)	241	26	30	12.22 meters.
Chimney of house	280	50	..	1½ miles.
Nail in blaze in twin persimmon tree (8 inches diameter)	306	40	40	29.56 meters.
Nail in blaze in sugarberry tree (12 inches diameter)	323	04	20	24.89 meters.
Chimney outside of building at Abells Wharf	337	37	..	3¼ miles.
Large chimney of house	340	16	..	3¼ miles.
Water tank	340	35	..	3¼ miles.

GROVE.

General locality.—Eastern shore of Bretons Bay about one-half mile north of Higgins Point and seven-eighths mile northeast of Kaywood Point. (See chart No. 25.)

Immediate locality.—Observed station is on sanded grassy land in a grove of trees about 8 feet above high water, 3 yards east of edge of bank, 5 yards south of edge of bank, 23 yards north by east of a large oak tree, and 30 yards south-southwest of a high sand pile. Cement monument marking reference station is near twin oak trees 21.48 meters S. 34° 32′ E. of observed station.

Marks.—Observed station is nail in stub with top about flush with surface of ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Blakistone Island Light" (S. 54° 24′ W.)	0	00	00	3¾ miles.
"Catholic Church Cross (Newtown Neck)"	93	09	30	1¼ miles.
Right tangent of chimney of priest's house	93	54	..	1¼ miles.
Tree (10 inches diameter)	107	09	..	5 yards.
Nail in blaze in persimmon tree (10 inches diameter)	204	01	00	8.27 meters.
Nail in blaze in forked oak tree (12 inches diameter)	243	46	30	12.31 meters.
REFERENCE STATION	271	03	45	21.48 meters.
Nail in blaze in right one of twin oak trees (12 inches diameter)	272	35	50	22.50 meters.
Oak tree (4 feet diameter)	326	09	..	23 yards.

CEDOAK.

General locality.—Eastern shore of Bretons Bay about one-eighth mile north of Higgins Point and seven-eighths mile east of Kaywood Point. (See chart No. 25.)

Immediate locality.—Observed station is about 8 feet above high water, 2 yards east of edge of bank, 11 yards north-northwest of edge of bank at cedar woods, 12 yards west-southwest of an oak tree, 30 yards south-southeast of small clump of cedar trees on point, and 40 yards south of edge of clearing. Cement monument marking reference station is 21.91 meters N. 76° 41′ E. of observed station.

Marks.—Observed station is nail in cedar stub about 1 inch above surface of ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Blakistone Island Light" (S. 58° 45′ W.)	0	00	00	3⅝ miles.
Left chimney of Colton Hotel	17	18	..	3½ miles.
Chimney of house beyond edge of woods	28	52	..	1⅜ miles.
Chimney on middle of house	54	17	..	⅞ mile.
Between two chimneys on right of priest's house	94	48	..	1⅝ miles.
Left peak of roof of railway building	111	49	..	1⅞ miles.
Nail in blaze in pine tree (13 inches diameter)	147	06	00	28.08 meters.
Nail in blaze in oak tree (14 inches diameter)	179	34	00	10.22 meters.
REFERENCE STATION	197	56	05	21.91 meters.
Nail in blaze in cedar tree (10 inches diameter)	222	43	40	16.19 meters.
Left tree on Higgins Point	290	59	..	⅛ mile.

KAYWOOD.

General locality.—Northern shore of Heron Island Sound on Kaywood Point. (See chart No. 25.)

Immediate locality.—Observed station is in a clear field about 8 feet above high water, 4 yards west-northwest of edge of bank, 22 yards northeast of edge of bank, 23 yards north-northeast of extreme point of bank, and 75 yards south-southwest of large gum tree at edge of woods.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Blakistone Island Light" (S. 49° 47′ W.)	0	00	00	.....	2⅞ miles.
Chimney on near end of house	42	31	..	.....	⅜ mile.
Chimney of cabin	75	41	..	.....	⅜ mile.
Nail in blaze in gum tree	154	04	10	.....	72 yards.
Right chimney of large house on hill	186	28	..	.....	5 miles.
Near peak of roof of house	187	05	..	.....	5 miles.
Chimney of small house	226	06	..	.....	2½ miles.

HERON.

General locality.—Northern side of Potomac River on a sand bar called Heron Island at entrances to St. Clement Bay and Bretons Bay and about 1¼ miles east-northeast of Blakistone Island Light. (See chart No. 25.)

Immediate locality.—Observed station is on southeastern end of sand bar remains of Heron Island.

Marks.—Observed station is awash except at low water and was not marked.

References.—None necessary.

BLAKISTONE ISLAND LIGHT.

General locality.—Northern side of Potomac River on southern end of Blakistone Island off entrance to St. Clement Bay and Bretons Bay. (See chart No. 25.)

Immediate locality.—Observed station is on a dwelling near a fog-bell tower.

Marks.—Observed station is center point of lantern on a dwelling known as Blakistone Island Lighthouse.

References.—

	°	′	″		
"Cobb Point Bar Light" (N. 61° 22′ W.)	0	00	00	.....	5 miles.

HERRING POND 2 (VIRGINIA).

General locality.—Southern shore of Potomac River on a point between Nomini Bay and Machodoc River about three-eighths mile east of Kingcopscio Point. (See progress map.)

Immediate locality.—Observed station is about 1 foot above high water, 2 feet south of shore, 25 yards west of a round point, 85 yards east-northeast of entrance to Herring Pond Creek, and west-northwest of a grove of cedar trees. Center one of five cedar posts marking reference station is 3 meters S. 5° 33′ E. of observed station.

Marks.—Observed station is center of 4-inch tile pipe set in cement with top about flush with surface of ground. Reference station is center one of four nails in center one of five cedar posts.

References.—

	°	′	″		
"Blakistone Island Light" (N. 42° 34′ W.)	0	00	00	.....	4½ miles.
Near chimney of Colton Hotel	4	18	..	.....	5½ miles.
Church Cross on Maryland shore	13	01	30	.....	11 miles.
Right chimney of Yates house	26	29	..	.....	5¾ miles.
Near corner of large house on hill	108	39	..	.....	8 miles.
Top nail in blaze in gnarled cedar tree (8 inches diameter)	160	35	40	.....	10.62 meters.
Nail in blaze in cedar tree (5 inches diameter)	220	44	40	.....	19.50 meters.
REFERENCE STATION (nail in cedar stub)	217	01	00	.....	3 meters.
Nail in blaze in stump (7 inches diameter)	227	29	30	.....	7.52 meters.
Nail in blaze in cedar stump (12 inches diameter)	288	16	20	....	3.62 meters.
Tree on point	314	21	..	.....	¼ mile.
Tangent of woods	319	13	..	.....	½ mile.

ST. CLEMENT.

General locality.—Northern shore of Heron Island Sound on Newton Neck about 2¼ miles northeast of Blakistone Island Light. (See chart No. 25.)

Immediate locality.—Observed station is in a cultivated field about 10 feet above high water, 17 yards northeast of shore, 32 yards east of shore, 32 yards north by west of most prominent point, and 70 yards southeast of another point. Cement monument marking reference station is on line to large mulberry tree 22.01 meters N. 41° 29′ E. of observed station.

Marks.—Observed station is nail in stub with top about 3 inches above surface of ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Blakistone Island Light" (S. 37° 57′ W.)	0	00	00	.....	2¼ miles.
Near corner of left chimney of Colton Hotel	29	09	..	.....	1⅞ miles.
Left corner of left chimney of large house	53	51	..	.....	1½ miles.
Nail in blaze in locust tree (6 inches diameter)	57	53	50	.....	31.98 meters.
Peak of near gable of house on Canoe Neck Creek	119	23	..	.....	2¾ miles.
Left tangent of trees on Long Point	120	08	..	.....	⅝ mile.
Nail in blaze in mulberry tree (30 inches diameter)	183	04	40	.....	23.30 meters.
REFERENCE STATION	183	31	40	.....	22.01 meters.
Right chimney of house	221	59	..	.....	⅜ mile.
Nail in blaze in locust tree (3 inches diameter)	309	32	30	.....	28.52 meters.

ST. PATRICK.

General locality.—Western shore of lower St. Clement Bay about 1½ miles north of Blakistone Island and one-half mile north-northeast of entrance to St. Patricks Creek. (See chart No. 25.)

Immediate locality.—Observed station is on cultivated land about 8 feet above high water, 26 yards west-northwest of edge of bank, 17 yards east-southeast of a lone persimmon tree, 100 yards north-northeast of a rail and wire fence, and 200 yards south of a barn in corner of field. Cement monument marking reference station is about on line to persimmon tree 15.35 meters N. 59° 51′ W. of observed station.

Marks.—Observed station is nail in stub with top about flush with surface of ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Blakistone Island Light" (S. 10° 47′ W.)	0	00	00	.....	2⅛ miles.
Peak of near gable of large house	55	39	30	.....	¼ mile.
Chimney of house	101	35	..	.....	⅜ mile.
REFERENCE STATION	109	22	10	.....	15.35 meters.
Nail in blaze in persimmon tree (12 inches diameter)	109	25	30	.....	16.32 meters.
Right peak of roof of barn	158	56	..	.....	200 yards.
Right tangent of chimney of house	175	37	..	.....	200 yards.
"Catholic Church Cross (Newtown Neck)"	228	45	20	.....	2⅜ miles.
Near corner of near chimney of priest's house	229	36	40	.....	2⅜ miles.
Near chimney of Yates house	255	04	..	.....	1 mile.
Chimney of left house on Blakistone Island	357	18	..	.....	2⅛ miles.

ROOF.

General locality.—Eastern side of St. Clement Bay about one-half mile north-northeast of entrance to bay, and three-eighths mile east-southeast of extreme end of Long Point. (See chart No. 25.)

Immediate locality.—Observed station is on western peak of roof of a barn behind a large house.

Marks.—Observed station is a 3-inch square staff fastened and braced to the western peak of roof of barn.

References.—None necessary.

CANOE.

General locality.—Western shore of lower St. Clement Bay opposite Long Point and about 2 miles north of Blakistone Island. (See chart No. 25.)

Immediate locality.—Observed station is in a cultivated field about 10 feet above high water, 4 yards northwest of edge of bank, 4 yards southwest of a ditch and trees in hollow, and 60 yards south by east of a large apple tree. Cement monument marking reference station is 53.28 meters N. 17° 17′ W. of observed station.

Marks.—Observed station is nail in stub with top about 2 inches above surface of ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Blakistone Island Light" (S. 14° 12′ W.)	0	00	00	2¾ miles.
Chimney of small house	19	40	..	1⅛ miles.
Near end of roof of house	54	55	..	½ mile.
REFERENCE STATION	148	31	20	53.28 meters.
Nail in blaze in pear tree (26 inches diameter)	148	34	30	54.82 meters.
Chimney outside of house	150	05	..	½ mile.
Left chimney of large house	178	54	..	⅜ mile.
Chimney of house	216	23	..	2⅛ miles.
"Catholic Church Cross (Newtown Neck)"	233	20	50	1⅞ miles.
Near peak of roof of barn	257	32	..	1¼ miles.
Near chimney of Yates house	283	03	..	⅞ mile.

RAILS.

General locality.—Eastern shore of St. Clement Bay about three-fourths mile northeast of Long Point and 3¼ miles north-northeast of Blakistone Island Light. (See chart No. 25.)

Immediate locality.—Observed station is about 12 feet above high water, 16 yards southeast of edge of bank, 3 yards northeast of a rail fence, 40 yards northeast of a marshy creek between two fences, and 400 yards west to northwest of woods.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Shipping" (N. 4° 08′ W.)	0	00	00	1¼ miles.
Chimney of house	35	31	..	1 mile.
"Catholic Church Cross (Newtown Neck)"	51	15	00	⅞ mile.
Near peak of roof of priest's house	53	32	..	⅞ mile.
Nail in blaze in locust tree (5 inches diameter)	129	06	30	5.27 meters.
Nail in blaze in cedar tree (7 inches diameter)	240	21	50	3.77 meters.
Nail in blaze in gum tree (10 inches diameter)	276	04	40	10.24 meters.
Near chimney of house with several gables	295	14	..	1¼ miles.
Left chimney of large house	352	11	..	1¼ miles.

WOODS.

General locality.—Western shore of St. Clement Bay about 1 mile north of Long Point and one-half mile northeast of entrance to Canoe Neck Creek. (See chart No. 25.)

Immediate locality.—Observed station is about 1 foot above high water, 2 yards northwest of shore, 13 yards southeast of a bank 4 feet high, 75 yards southwest of a shell point, and southeast of a grove of pine, oak, and persimmon trees.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Blackistone Island Light" (S. 21° 34′ W.)	0	00	00	3½ miles.
Nail in blaze in pine tree (20 inches diameter)	28	50	00	9.85 meters.
Nail in blaze in pine tree (10 inches diameter)	67	11	30	13.53 meters.
Nail in blaze in pine tree (12 inches diameter)	99	23	50	12.18 meters.
Left chimney of house	201	24	..	1½ miles.
Chimney of house	214	21	..	1¼ miles.
"Catholic Church Cross (Newtown Neck)"	245	57	20	1⅛ miles.
Chimney of house	299	42	..	⅞ mile.

CATHOLIC CHURCH CROSS (NEWTOWN NECK).

General locality.—On Newtown Neck about halfway between Bretons Bay and St. Clement Bay and 2 miles north-northeast of Heron Island Sound. (See chart No. 25.)

Immediate locality.—Observed station is on Catholic Church situated on main road on Newtown Neck.

Marks.—Observed station is center of cross on Catholic Church.

References.—None necessary.

CHAPEL.

General locality.—Eastern shore of St. Clement Bay on a point about five-eighths mile southeast of Shipping Point, and 1½ miles northeast of Long Point. (See chart No. 25.)

Immediate locality.—Observed station is on southwest slope of a point about 15 feet high, 10 feet above high water, 5 yards northeast of edge of bank, 7 yards southeast of edge of bank, 7 yards east-southeast of point of bank, 25 yards west-southwest of a cultivated field, and 3 to 10 yards west to southwest of a dense growth of young pine trees. Cement monument marking reference station is about 9 yards from edge of bank on edge of woods and cultivated field 17.12 meters N. 65° 49′ E. of observed station.

Marks.—Observed station is nail in stub with top about flush with surface of ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Shipping" (N. 34° 20′ W.)	0	00	00	⅝ mile.
Chimney on right end of house	0	54	..	1¼ miles.
Peak of front gable of house	16	49	..	2 miles.
Near peak of roof on Stones Wharf	24	02	..	3¼ miles.
Near peak of roof of small house	54	49	..	¾ mile.
Peak of gable of house	66	22	..	⅝ mile.
Nail in blaze in pine tree (6 inches diameter)	81	18	..	5.68 meters.
REFERENCE STATION	100	09	10	17.12 meters.
Nail in blaze in pine tree (4 inches diameter)	119	07	30	3.10 meters.
Nail in blaze in pine tree (3 inches diameter)	159	04	30	9.38 meters.
Near peak of roof of barn	225	28	..	1 mile.
Chimney of Yates house	240	52	..	1⅜ miles.
Chimney outside of house	302	51	..	¾ mile.
Near peak of gable of house	345	17	30	¾ mile.

SHIPPING.

General locality.—Western shore of St. Clement Bay on Shipping Point about three-eighths mile southwest of Howards Wharf and 1¾ miles north-northeast of Long Point. (See chart No. 25.)

Immediate locality.—Observed station is on a sand and grass point about 1 foot above high water, 5 yards southwest of shore, 6 yards north of shore, 16 yards west-northwest of extreme end of point, 20 yards east-southeast of woods on point, and 300 yards northeast of a house.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Catholic Church Cross (Newtown Neck)" (S. 46° 09′ E.)	0	00	00	1 mile.
Right tangent of right chimney of priest's house	0	07	..	1 mile.
Left peak of roof of barn	39	34	..	1½ miles.
Left tree on Long Point	62	53	..	1 mile.
Post of bird house	104	23	..	250 yards.
Chimney on ell of Colton house	114	04	..	300 yards.
Nail in blaze in cedar tree (3 inches diameter)	159	05	50	18.51 meters.
Nail in blaze in cedar tree (5 inches diameter)	184	37	20	17.18 meters.
Right chimney of house	193	41	..	⅝ mile.
Flagstaff at Maycroft	205	06	40	1 mile.
Nail in blaze in cedar tree (3 inches diameter)	221	28	30	3.76 meters.
Peak of front gable of house	240	48	..	2 miles.
Near peak of front gable of house	317	34	..	⅝ mile.

MANSION.

General locality.—Eastern shore of St. Clement Bay about one-half mile southeast of Howards Wharf and 2 miles north-northeast of Long Point. (See chart No. 25.)

Immediate locality.—Observed station is about 20 feet above high water, 6 yards northeast of edge of bank, 100 yards west by south of a corncrib, 110 yards west-northwest of an outbuilding, 125 yards southwest of a house, and 85 yards west of fruit trees. Cement monument marking reference station is 44.26 meters N. 19° 04′ E. of observed station.

Marks.—Observed station is nail in stub with top about flush with surface of ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Shipping" (N. 84° 21′ W.)	0	00	00	⅝ mile.
Right chimney of house	25	21	..	1 mile.
Nail in blaze in cedar tree (7 inches diameter)	60	41	10	47.34 meters.
Nail in blaze in cedar tree (7 inches diameter)	102	21	10	43.77 meters.
REFERENCE STATION	103	24	35	44.26 meters.
Near corner of house	143	38		127 yards.
Near corner of corncrib	163	17	..	99 yards.
Nail in blaze in apple tree (14 inches diameter)	182	45	20	77.64 meters.
Near corner of outbuilding	203	42	..	111 yards.
"Catholic Church Cross (Newtown Neck)"	253	20	00	⅝ mile.
Peak of front gable of Colton house	353	19		⅞ mile.

HOWARDS.

General locality.—Northeastern shore of St. Clement Bay about 2¼ miles north-northeast of Long Point, one-half mile northeast of Shipping Point and one-eighth mile east of Howards Wharf. (See chart No. 25.)

Immediate locality.—Observed station is in a field about 20 feet above high water, 8 yards north of edge of bank, 16 yards west-northwest of edge of ravine, 18 yards northwest of extreme end of point of bank, 70 yards west of another ravine, 100 yards west-northwest of a wire fence, and 250 yards south of a house.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Chapel" (S. 0° 26′ W.)	0	00	00	1⅛ mile.
Left chimney of Yates house	16	33	..	2¼ miles.
Chimney outside of house	38	37	..	1⅛ miles.
Nail in blaze in cedar tree (6 inches diameter)	54	54	40	8.62 meters.
Nail in blaze in cherry tree (7 inches diameter)	85	26	10	23.75 meters.
Cupola on Maycroft barn	124	50	..	1 mile.
Flagstaff at Maycroft	127	33	..	1 mile.
Oak tree (3 feet diameter)	150	38	..	200 yards.
Chimney of house	156	01	..	250 yards.
Left peak of roof of barn	223	31	..	250 yards.
Near peak of roof of house	241	39	..	¼ mile.
Chimney of house in woods	284	21	..	⅜ mile.
Nail in blaze in cedar tree (3 inches diameter)	339	29	00	12.15 meters.

MILEYS.

General locality.—Western shore of St. Clement Bay about one-half mile west-northwest of Howards Wharf, one-half mile northwest of Shipping Point, and one-eighth mile north of entrance to Mileys Creek. (See chart No. 25.)

Immediate locality.—Observed station is among water bushes on marsh land about 1 foot above high water, 12 yards southwest of shore, 20 yards west of shore, and 150 yards east-southeast of a house.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Shipping" (S. 29° 08′ E.)	0	00	00	½ mile.
Left chimney of house	144	08	..	150 yards.
Right corner of chimney of house	154	56	..	150 yards.
Near peak of roof of house	183	18	..	¼ mile.
Between two chimneys of old house	209	36	..	½ mile.
Right chimney of old house	247	47	..	⅞ mile.
Right chimney of Howard house	295	02	..	½ mile.
Left corner of left chimney of priest's house	348	13	40	1½ miles.
"Catholic Church Cross (Newtown Neck)"	348	39	20	1½ miles.

BANK.

General locality.—Eastern shore of St. Clement Bay about one-fourth mile north of Howards Wharf, five-eighths mile north-northeast of Shipping Point and five-eighths mile east-northeast of entrance to Mileys Creek. (See chart No. 25.)

Immediate locality.—Observed station is in a field adjoining an orchard back of a tree-fringed shore about 12 feet above high water, 20 yards east of edge of field, 17 yards south of a small gully, and 50 yards north of a fence dividing orchard and field. Cement monument marking reference station is 18.53 meters N. 42° 08′ W. of observed station.

Marks.—Observed station is nail in stub with top about flush with surface of ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Shipping" (S. 25° 34′ W.)	0	00	00	.....	5/8 mile.
Near chimney outside small house on Mileys Creek	42	12	..	.....	3/4 mile.
Chimney outside right end of house	55	15	..	.....	5/8 mile.
Flagstaff at Maycroft	89	05	..	.....	5/8 mile.
REFERENCE STATION	112	17	40	.....	18.53 meters.
Nail in blaze in cherry tree (22 inches diameter)	112	22	30	.....	19.69 meters.
Right chimney of house	155	16	..	.....	1/2 mile.
Nail in blaze in walnut tree (13 inches diameter)	182	37	30	.....	13.49 meters.
Tree at corner of orchard	280	26	..	.....	66 yards.
Chimney of house	327	52	..	.....	7/8 mile.
Nail in blaze in cherry tree (18 inches diameter)	353	37	00	.....	37.03 meters.

PROFOUND.

General locality.—Eastern shore of upper St. Clement Bay about one-half mile south of Cedar Point and 1 mile north of Shipping Point. (See chart No. 25.)

Immediate locality.—Observed station is on the southern side of the point on which the Hudson house is located about 12 feet above high water, 3 yards east-southeast of north corner and 3 yards north-northeast of south corner of a chicken house, 25 yards west of extreme end of point, 16 yards southeast of a well, 5 yards southwest of a drain from well, 16 yards southwest of edge of bank, and 4 yards southeast of top of bank.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Cecil" (N. 70° 56′ E.)	0	00	00	.....	1/2 mile.
Nail in blaze in cherry tree (7 inches diameter)	18	02	35	.....	3.54 meters.
Chimney of house on Howard Point	60	16	..	.....	5/8 mile.
"Catholic Church Cross (Newtown Neck)"	78	55	10	.....	1 7/8 miles.
Near outside chimney of house	120	59	..	.....	1/2 mile.
Left corner of chicken house	132	39	20	.....	1.84 meters.
Left side of left chimney of Hudson house	201	54	20	.....	44 yards.
Right corner of chicken house	213	14	..	.....	2.30 meters.
Nail in blaze in right branch of pear tree (35 inches diameter)	218	35	40	.....	0.19 meters.
Near corner of kitchen	233	32	..	.....	14.35 meters.
Center of standpipe at well	253	09	30	.....	13.21 meters.
Near corner of right chimney of house	253	44	..	.....	1/4 mile.
Peak of front gable of house	286	31	..	.....	3/8 mile.
Nail in blaze in apple tree (14 inches diameter)	296	38	30	.....	8.79 meters.
Peak of front gable of house	316	27	..	.....	2 miles.
Near corner of near chimney of house	358	54	..	.....	1/2 mile.

CECIL.

General locality.—Eastern shore of upper St. Clement Bay about one-half mile southeast of Cedar Point and 1⅛ miles north of Shipping Point. (See chart No. 25.)

Immediate locality.—Observed station is in a field about 12 feet above high water, 14 yards northeast of extreme edge of bank, 14 yards east of edge of bank, 21 yards southeast of edge of bank, 25 yards north of a marshy gully, 130 yards west-southwest of a fence surrounding a farmhouse, and 135 yards west-southwest of a house.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Mileys" (S. 35° 54′ W.)	0	00	00	.....	¾ mile.
Near corner of near chimney of house	5	41	40	.....	¾ mile.
Near corner of chimney outside of house	16	58	..	.....	¾ mile.
Peak of front gable of house	85	56	..	.....	½ mile.
Near peak of roof on Cobrums Wharf	99	01	..	.....	⅞ mile.
Largest chimney of house on ridge	111	24	..	.....	2¾ miles.
Near corner of chimney of house on ridge	132	38	..	.....	2½ miles.
Peak of front gable of house	160	58	..	.....	1¾ miles.
Near corner of house	206	52	20	.....	136 yards.
Nail in blaze in cedar tree (5 inches diameter)	281	10	20	.....	15.07 meters.
Near peak of roof of large barn	292	43	..	.....	¾ mile.
Chimney of house	316	25	20	.....	⅝ mile.

RADEC.

General locality.—Western shore of upper St. Clement Bay on Cedar Point about three-eighths of a mile southeast of Cobrums Wharf and 1¼ miles south of Stones Wharf. (See chart No. 25.)

Immediate locality.—Observed station is on a point about 3 feet above high water, 23 yards northwest of shore, 32 yards south of shore, 75 yards west of extreme end of point, 45 yards northeast of outlet of a small pond, and 14 yards north-northeast of a small cedar tree.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Place" (N. 47° 42′ E.)	0	00	00	.....	½ mile.
Nail in blaze in cedar tree (6 inches diameter)	16	43	30	.....	17.80 meters.
Left point of roof of house	51	49	..	.....	¾ mile.
Left chimney of house on Howard Point	79	13	..	.....	1⅛ miles.
Right side of right chimney of Hudson house	110	59	..	.....	½ mile.
Nail in blaze in cedar tree (7 inches diameter)	124	00	50	.....	13.03 meters.
Right tangent of house	130	00	..	.....	⅛ mile.
Peak of front gable of house	225	35	..	.....	⅜ mile.
Near peak of roof of wharf house	241	18	40	.....	⅜ mile.
Chimney of house	251	59	..	.....	¾ mile.
Near peak of roof on Stones Wharf	283	39	30	.....	1¼ miles.
Left chimney of house	284	44	30	.....	1¼ miles.
Left tangent of left chimney of old house	342	08	..	.....	¾ mile.
Nail in blaze in cedar tree (14 inches diameter)	351	42	00	.....	25.89 meters.

PLACE.

General locality.—Eastern shore of upper St. Clement Bay about three-fourths of a mile east of Cobrums Wharf, five-eighths of a mile southeast of Guest Point and one-half of a mile east-north-east of Cedar Point. (See chart No. 25.)

Immediate locality.—Observed station is on the southern edge of a cultivated field about 10 feet above high water, 4 yards north of edge of bank, 20 yards east-southeast of edge of bank, 40 yards east-northeast of extreme end of marsh point, 50 yards north of edge of marsh, and 95 yards west-northwest of a corn crib.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Guest" (N. 41° 32′ W.)	0	00	00	.....	⅝ mile.
Left tangent of left chimney of large house	57	46	..	.....	¼ mile.
Left tangent of chimney of shack	162	05	..	.....	112 yards.
Nail in blaze in apple trees (5 inches diameter)	165	35	30	.....	15.43 meters.
Nail in blaze in old stump (5 inches diameter)	197	51	40	.....	6.53 meters.
Near peak of roof of house on next point	226	05	..	.....	⅝ mile.
Chimney outside near end of house	251	10	..	.....	1¼ miles.
Right tangent of right chimney of Hudson house	261	35	..	.....	⅞ mile.
Peak on front gable of house	287	16	..	.....	⅝ mile.
Near peak of roof on Cobrums Wharf	319	05	..	.....	¾ mile.

COBRUMS.

General locality.—Western shore of upper St. Clement Bay on southern side of entrance to Tomakokin Creek, about 1 mile south-southwest of Stones Wharf and 100 yards northwest of Cobrums Wharf. (See chart No. 25.)

Immediate locality.—Observed station is on a marsh point about 2 feet above high water, 65 yards north-northwest of shore end of Cobrums Wharf, 7 yards south of shore, 8 yards southwest of shore, 12 yards west of shore at extreme end of point, and 17 yards east-northeast of a fence.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Tomakokin" (N. 38° 47′ W.)	0	00	00	.....	⅜ mile.
Chimney on near end of house	14	50	..	.....	⅜ mile.
Left tangent of left chimney of house on hill	42	17	..	.....	1¾ miles.
Near peak of roof of house on Stones Wharf	53	01	..	.....	1 mile.
Peak of front gable of house	88	56	..	.....	1½ miles.
Left tangent of left chimney of old house	121	54	..	.....	⅞ mile.
Left corner of house on Cobrums Wharf	177	28	30	.....	70 yards.
Right corner of house on Cobrums Wharf	184	10	..	.....	65 yards.
Right chimney of house	190	12	..	.....	½ mile.
Nail in blaze in one of several bushes	255	07	50	.....	17.04 meters.
Near peak of roof of barn	264	28	..	.....	⅛ mile.
Nail in blaze in cherry tree (3 feet diameter)	306	25	40	.....	30.28 meters.

GUEST.

General locality.—Eastern shore of upper St. Clement Bay on Guest Point, about one-half mile northeast of Cobrums Wharf and five-eighths mile south-southeast of Stones Wharf. (See chart No. 25.)

Immediate locality.—Observed station is on a marsh point about 3 feet above high water, 32 yards north of shore, 43 yards northeast of shore, 45 yards east of shore, 95 yards west-northwest of south corner of a fence, and 175 yards south-southwest of north corner of a fence at edge of bank.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Stones" (N. 16° 55′ W.)	0	00	00	.....	5/8 mile.
Near peak of roof on Stones Wharf	1	58	..	.....	5/8 mile.
Near corner of highest chimney on Greenwell house	5	06	..	.....	3/4 mile.
Cedar tree	21	35	..	.....	150 yards.
Left corner of chimney of house	61	55	..	.....	150 yards.
Peak of near gable of house on hill	65	37	..	.....	1 mile.
Near peak of roof of house	100	13	..	.....	1/4 mile.
Near corner of near chimney of old house	129	55	..	.....	1/4 mile.
Left chimney of house	180	27	..	.....	1 5/8 miles.
Left tangent of left chimney of Hudson house	206	11	..	.....	1 3/8 miles.
Near chimney of house	211	20	..	.....	5/8 mile.
Chimney on middle of house among trees	217	19	..	.....	5/8 mile.
Nail in blaze in cedar tree (6 inches diameter)	239	53	50	.....	12.57 meters.
Near peak of roof on Cobrums Wharf	243	57	..	.....	1/2 mile.
Nail in blaze in locust tree (6 inches diameter)	260	31	50	.....	20.25 meters.
Near corner of chimney of house on hill	326	05	..	.....	1 3/4 miles.
Near corner of largest chimney of house on hill	331	50	..	.....	1 7/8 miles.

TOMAKOKIN.

General locality.—Western shore of upper St. Clement Bay on northern side of entrance to Tomakokin Creek, about three-eighths mile northwest of Cobrums Wharf and three-fourths mile southwest of Stones Wharf. (See chart No. 25.)

Immediate locality.—Observed station is on the edge of a cultivated field about 4 feet above high water, 4 yards west of shore, 12 yards northwest of high water, 14 yards south-southwest of a walnut tree, and 300 yards south-southeast of a barn.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Guest" (N. 84° 01′ E.)	0	00	00	.....	5/8 mile.
Left corner of left chimney of old house	13	15	..	.....	1 mile.
Near peak of roof on Cobrums Wharf	57	33	..	.....	3/8 mile.
Right peak of roof of barn	71	52	..	.....	1/4 mile.
Near corner of chimney of house	135	25	..	.....	3/8 mile.
Left tangent of left chimney of house	181	21	..	.....	5/8 mile.
Nail in blaze in mulberry tree (6 inches diameter)	188	46	40	.....	29.18 meters.
Nail in blaze	200	36	50	.....	40.31 meters.
Right peak of roof of barn	252	21	..	.....	300 yards.
Chimney of house showing over barn roof	289	28	..	.....	1/8 mile.
Right chimney of Greenwell house	306	49	..	.....	7/8 mile.
Near peak of roof on Stones Wharf	307	52	..	.....	3/4 mile.
Nail in blaze in walnut tree (11 inches diameter)	310	31	30	.....	12.71 meters.
Chimney of old house near Guest Point	354	58	..	.....	5/8 mile.

DYNARD.

General locality.—Western shore of upper St. Clement Bay about one-half mile southwest of Stones Wharf and one-fourth mile north of Tomakokin Creek. (See chart No. 25.)

Immediate locality.—Observed station is in an angle of rail fence in corner of a cultivated field about 2 feet above high water, 8 yards west of shore, 9 yards west-southwest of shore, and 9 yards northwest of shore.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Turf" (N. 3° 00′ E.)	0	00	00	⅜ mile.
Right chimney of Greenwell house	31	05	..	½ mile.
Near peak of roof on Stones Wharf	32	59	..	½ mile.
Near corner of chimney of house	73	11	..	½ mile.
Near corner of chimney of house	97	26	..	½ mile.
Nail in blaze in persimmon tree (8 inches diameter)	101	27	30	2.42 meters.
Near corner of chimney of old house	107	54	..	½ mile.
Left cedar tree on Cedar Point	150	05	..	⅝ mile.
Right chimney of house	157	13	..	⅝ mile.
Near peak of roof on Cobrums Wharf	163	21	..	¾ mile.
Nail in blaze in cedar fence post	181	16	40	2.45 meters.
Chimney of house	210	16	..	¼ mile.
Nail in blaze in mulberry tree (10 inches diameter)	325	04	00	4.85 meters.

TURF.

General locality.—Western shore of upper St. Clement Bay on a point about three-eighths mile west of Stones Wharf. (See chart No. 25.)

Immediate locality.—Observed station is in a cultivated field about 2 feet above high water, 26 yards south-southwest of shore, 27 yards northwest of shore, 32 yards west of shore, 90 yards north of a point, 300 yards east-northeast of a house, and 200 yards east-northeast of a wire fence.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Stones" (N. 80° 29′ E.)	0	00	00	¼ mile.
Right peak of roof on Stones Wharf	3	36	..	⅜ mile.
Left chimney of house	86	38	..	1¼ miles.
Left peak of roof on Cobrums Wharf	93	17	..	⅞ mile.
Left tree on point	95	22	..	75 yards.
Near peak of roof of barn	152	27	..	300 yards.
Right chimney of house	173	06	..	300 yards.
Right chimney of house behind trees	226	31	..	¼ mile.
Left chimney of house on hill	252	10	..	2 miles.
Right chimney of house	290	11	..	1 mile.
Right chimney of Greenwell house	352	57	..	½ mile.

STONES.

General locality.—Eastern shore of upper St. Clement Bay near Stones Wharf about five-eighths mile north-northwest of Guest Point. (See chart No. 25.)

Immediate locality.—Observed station is on a point about 54 yards west-northwest of northern end of large wharf house, 5 yards northeast of extreme end of point, 5 yards southeast of shore, 30 yards south of a board fence, and 65 yards south-southwest of foot of a hill.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Guest" (S. 16° 55′ E.)	0	00	00	5/8 mile.
Left chimney of house	0	23	30	1 5/8 miles.
Left chimney of house	16	16	..	1¼ miles.
Left peak of roof on Cobrums Wharf	26	55	30	1 mile.
Front gable of house	30	04	30	1⅛ miles.
Right corner of right chimney of house	94	41	20	¼ mile.
Right corner of large chimney of house on hill	130	28	..	1⅜ miles.
Middle of post at left corner of board fence	185	44	30	28 yards.
Right corner of right one of two chimneys of Greenwell house	236	25	..	⅛ mile.
Peak of north gable of roof of large house on Stones Wharf	295	47	..	54 yards.
Peak of south gable of roof of large house on Stones Wharf	315	22	..	50 yards.

BARBER.

General locality.—Northeastern shore of Wicomico River about three-fourths mile north-northeast of Stoddard Point. (See chart No. 26.)

Immediate locality.—Observed station is on grass land about 2 feet above high-water mark, 3 yards north of shore, 20 yards west of trees which extend inland along creek, 4 yards southwest by west of a corner of a fence and 15 yards southeast of another corner of a fence.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Stoddard" (S. 9° 46′ W.)	0	00	00	1 1/8 miles.
Left chimney of Stoddard house	3	27	..	1⅛ miles.
Near peak of roof between two chimneys	45	15	..	1½ miles.
Chimney on left end of small house	62	54	..	1¾ miles.
Nail in blaze in top fence rail	136	06	..	10.62 meters.
Nail in blaze in cedar tree (5 inches diameter)	155	29	..	10.75 meters.
Nail in blaze in top of chestnut fence post	245	24	..	3.43 meters.
Nail in blaze in persimmon tree (5 inches diameter)	259	16	..	13.94 meters.
Tangent of point	299	13	..	¼ mile.
Near large chimney of negro quarters	302	07	..	1⅛ miles.

UPPER.

General locality.—Southwestern shore of Wicomico River on Stoddard Point (upper point) about 2¼ miles north-northwest of Mills Point. (See chart No. 26.)

Immediate locality.—Observed station is on a long narrow point about 2 feet above high-water mark, 5 yards south of side of point, 8 yards northwest of side of point, 38 yards west of high-water mark on middle of point and 138 yards west by north of high-water mark on extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Stoddard" (S. 27° 38′ E.)	0	00	00	⅛ mile.
Right chimney of Stoddard house	9	12	..	⅛ mile.
Left peak of roof of barn	33	02	..	⅛ mile.
Left chimney of old house	49	29	..	⅛ mile.
Tangent of next point	141	07	..	⅝ mile.
Right chimney of house on ridge	179	15	..	3 miles.
Chimney outside small house on opposite shore	213	28	..	1¼ miles.
Near corner post of piazza of large house	247	47	..	1⅝ miles.
Chimney top of Key house	296	04	..	1½ miles.

KEY.

General locality.—Northeastern shore of Wicomico River on a high bluff about 1 mile north of Cohouck Point. (See chart No. 26.)

Immediate locality.—Observed station is about 30 feet above high-water mark in an orchard, about 24 yards northeast of edge of bank, 49 yards north of edge of bank, 15 yards east of edge of bank, 130 yards south-southwest of negro quarters and 130 yards west of fence which incloses an orchard.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Stoddard" (S. 70° 48′ W.)	0	00	00	1⅛ miles.
Near corner of near chimney on Stoddard house	0	29	..	1¼ miles.
Near corner of near chimney of small house	15	05	..	1⅜ miles.
Peak of roof between two chimneys on house	17	13	..	2 miles.
Peak of roof of very large barn	56	52	..	3 miles.
Chimney on middle of roof on 2-story house	62	06	..	3 miles.
Near corner of near chimney of negro's quarters	116	54	..	130 yards.
Nail in blaze in apple tree (12 inches diameter)	135	58	..	22.15 meters.
Chimney of Key house	164	37	..	¼ mile.
Nail in blaze in apple tree (14 inches diameter)	168	57	..	13.39 meters.
Peak of roof of large barn	259	16	..	½ mile.
Nail in blaze in apple tree (12 inches diameter)	281	25	..	7.94 meters.
Peak of roof of house on piles	347	23	..	1⅜ miles.
Between two chimneys of large brick house on hill	357	45	..	2½ miles.

STODDARD.

General locality.—Western shore of Wicomico River about one-half mile south-southeast of Stoddard Point and 1 mile west-northwest of Cohouck Point. (See chart No. 26.)

Immediate locality.—Observed station is on gravel, grass, and shell point, near a lone gum tree, about 2 feet above high-water mark, 6 yards south-southwest of side of point, 6 yards north of side of point, 10 yards west of extreme end of point, and 158 yards east-northeast of Stoddard house.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Upper" (N. 26° 37′ W.)	0	00	00	½ mile.
Outside chimney of small house	23	08	..	1½ miles.
Peak of front gable of large house on ridge	52	54	..	1⅞ miles.
Chimney on top of Key house	94	47	..	1¾ miles.
Chimney outside of 2½ story house	153	58	..	2⅜ miles.
Right chimney of large house	172	38	..	2 miles.
Peak of roof of house on Chaptico Wharf	180	19	..	2⅝ miles.
Chimney top of house on piles	228	37	..	½ mile.
Near corner of chimney on Stoddard house	284	44	..	158 yards.
Nail in blaze in pear tree (24 inches diameter)	315	29	..	4.58 meters.
Nail in blaze in pear tree (4 inches diameter)	349	47	..	9.41 meters.

COHOUCK.

General locality.—Eastern shore of Wicomico River on Cohouck Point on the northern side of entrance to Chaptico Bay. (See chart No. 26.)

Immediate locality.—Observed station is on Cohouck Point, about 6 feet above high-water mark, 12 yards east of edge of bank, 35 yards south of edge of bank, 85 yards northeast of extreme point and about 25 yards north of marsh.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Key" (N. 3° 29′ E.)	0	00	00	⅞ mile.
Nearest chimney on negro quarters	0	27	..	1 mile.
Near peak of roof of barn	26	38	..	1 mile.
Chimney outside near end of 2½-story house	128	58	..	¾ mile.
Right chimney of Lyon house near Mills Point	171	29	..	1⅛ miles.
Chimney on flat roof house near mouth of Bowmans Creek	226	56	..	2 miles.
Chimney on far end of house	261	43	..	1⅜ miles.
Chimney on house on piles	270	53	..	1⅛ miles.
Peak of front gable of house on ridge	352	51	..	2¼ miles.

HAYDEN.

General locality.—Western shore of the Wicomico River about 1⅛ miles west of Cohouck Point. (See chart No. 26.)

Immediate locality.—Observed station is surrounded by water bushes on marshy land, about 1 foot above high water, 5 yards northwest of shore and 17 yards southeast of line of trees on top of bank. Cement monument marking reference station is 11.50 meters N. 54° 34′ W. of observed station.

Marks.—Observed station is nail in stub with top 3 inches above ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Fact" (S. 41° 35′ E.)	0	00	00	1⅜ miles.
Between two main chimneys of large house below Chaptico Wharf	5	11	..	2⅜ miles.
West roof peak of house on Chaptico Wharf	6	51	..	2¼ miles.

References—Continued.	°	′	″		
Chimney on middle of square house	65	06	..	.....	⅝ mile.
Nail in blaze in cedar tree (18 inches diameter)	124	14	..	.....	23.45 meters.
Nail in blaze in locust tree (8 inches diameter)	155	23	..	.....	16.55 meters.
REFERENCE STATION	167	01	20	.....	11.51 meters.
Nail in blaze in oak tree (8 inches diameter).	213	29	..	.....	18.74 meters.
Chimney on Key house	275	45	..	.....	1¾ miles.
Chimney of Maddox house	344	28	..	.....	3¼ miles.
Right chimney outside of old house	354	31	..	.....	1⅝ miles.

PERRY.

General locality.—Southeastern shore of Chaptico Bay, about 1 mile northeast of Mills Point and ⅝ mile southeast of Cohouck Point. (See chart No. 26.)

Immediate locality.—Observed station is in an open field, about 20 feet above high-water mark, 8 yards northwest of edge of bank, 9 yards south-southwest from edge of gully in bank, 5 yards south of edge of bank of gully, and about 150 yards north-northeast of creek.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Fact" (S. 51° 10′ W.)	0	00	00	.....	1 mile.
Chimney on right end of house	5	41	..	.....	2⅜ miles.
Chimney on flat-roof house	15	03	..	.....	2½ miles.
Left chimney of Crane house	31	37	..	.....	3⅝ miles.
Nail in blaze in locust tree (3 inches diameter)	42	34	..	.....	10.49 meters.
Nearest chimney on larger part of double brick house	42	50	..	.....	3⅝ miles.
Left chimney of house on piles	55	28	..	.....	1¾ miles.
Near peak of roof on house	62	53	..	.....	2 miles.
Near corner of near chimney of Stoddard house	66	59	..	.....	2 miles.
Nail in blaze in locust tree (3 inches diameter)	81	40	..	.....	8.44 meters.
Peak of front gable of house on ridge	113	51	..	.....	3 to 4 miles.
Nail in blaze in locust tree (8 inches diameter)	136	40	..	.....	5.95 meters.
Near chimney of large house on ridge	169	08	..	.....	1⅝ miles.
Chimney outside of 2¼-story house	289	15	..	.....	150 yards.

BURR.

General locality.—Western shore of Wicomico River directly opposite mouth of Chaptico Bay and three-fourths mile north of Bowmans Creek. (See chart No. 26.)

Immediate locality.—Observed station is on hard ground between a sloping bank 10 feet high covered with trees and a marshy shore, about 2 feet above high-water mark, 18 yards northwest of extreme point 23 yards north of shore, 17 yards southwest of shore, and 9 yards southeast of bottom of bank.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Fact" (S. 65° 59′ E.)	0	00	00	.....	1¼ miles.
Between two chimneys of large house on ridge	16	39	..	.....	4¾ miles.
West end of peak of roof of house on Chaptico Wharf	17	15	..	.....	2⅛ miles.
Right chimney of 2½-story house	72	21	..	.....	1¼ miles.
Chimney in middle of large house	88	21	..	.....	1⅛ miles.
Nail in blaze in persimmon tree (11 inches diameter)	97	25	..	.....	7.67 meters.
Nail in blaze in persimmon tree (9 inches diameter)	192	56	..	.....	2.60 meters.

References—Continued.

	°	′	″	
Nail in blaze in persimmon tree (10 inches diameter)	236	32	.. ..	3.86 meters.
Main chimney of Key house	293	03	.. ..	2¼ miles.
Chimney on Maddox house	358	28	.. .. ..	3⅛ miles.

FACT.

General locality.—Eastern shore of Wicomico River on Mills Point on south side of mouth of Chaptico Bay. (See chart No. 26.)

Immediate locality.—Observed station is on a long point covered on the southern side with gum and cedar trees, about 10 feet above high-water mark, 23 yards from extreme end of top of bank, 6 yards north of edge of bank, and 8 yards southeast of edge of bank.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Cobb Point Bar Light" (S. 7° 13′ E.)	0	00	00	6¼ miles.
Nail in blaze in cedar tree (7 inches diameter)	5	07	.. ..	6.20 meters.
Nail in blaze in oak tree (28 inches diameter)	56	16	.. ..	6.37 meters.
Chimney on ell end of Stoddard house	157	08	.. ..	1⅞ miles.
Chimney on Key house	199	54	.. ..	2⅜ miles.
Near peak of roof of large house	274	25	.. ..	¼ mile.
Nail in blaze in cedar tree (6 inches diameter)	301	45	.. ..	16.26 meters.
Near chimney of large house near shore	317	53	.. ..	⅝ mile.
West end of peak of house on Chaptico Wharf	342	53	.. ..	⅞ mile.

BOWMAN.

General locality.—Western shore of Wicomico River at northeast side of mouth of Bowmans Creek and 1½ miles west by south of Mills Point. (See chart No. 26.)

Immediate locality.—Observed station is surrounded by water bushes on point of land about 1½ feet above high water, 14 yards east of high-water mark, 16 yards north of extreme end of point, 20 yards northeast of side of point, 20 yards south of several cedar trees, and about 150 yards south of a house.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Sacred Heart Church Spire" (S. 62° 50′ E.)	0	00	00	4⅝ miles.
Chimney on end of long house	10	37	.. ..	3¼ miles.
Chimney of Lyon house	13	56	.. ..	3¼ miles.
Nail in blaze in cedar tree (7 inches diameter)	59	04	40	8.88 meters.
Chimney on square house	76	25	.. ..	¼ mile.
Crane house	168	10	.. ..	2 miles.
Nail in blaze in cedar tree (6 inches diameter)	216	10	00	18.37 meters.
Nail in blaze in cedar tree (7 inches diameter)	232	40	30	17.58 meters.
Chimney on near end of house	263	40	.. ..	½ mile.
Peak of roof between two chimneys	357	27	.. ..	2¼ miles.

EEDLING.

General locality.—Western shore of Wicomico River about 1¼ miles southwest of Mills Point and about 1 mile southeast of mouth of Bowmans Creek. (See chart No. 26.)

Immediate locality.—Observed station is in a shell-covered cultivated field, about 10 feet above high-water mark, 37 yards southwest of shell and gravel beach, 88 yards west-northwest of extreme end of point, and 79 yards north of a ditch in marsh. Cement monument marking reference station is 23.99 meters N. 89° 56′ W. of observed station.

Marks.—Observed and reference stations are marked by the center point of the triangles on standard cement monuments.

References.—	°	′	″	
"Fact" (S. 39° 15′ W.)	0	00	00	1¼ miles.
Nail in blaze in gum tree (20 inches diameter).	2	07	50	26.06 meters.
Near peak of roof of house on Chaptico Wharf.	42	05	.. ..	1⅜ miles.
Chimney outside near end of house on hill...	44	24	.. ..	2⅝ miles.
Nail in blaze in cedar tree (3 inches diameter).	49	54	40	25.75 meters.
REFERENCE STATION	50	48	55	23.99 meters.
Chimney on right of ell of a house	60	12	.. ..	2 miles.
Near peak of roof of Bedling house	265	55	.. ..	⅜ mile.
Nail in blaze in oak tree (24 inches diameter).	331	27	40	33.99 meters.

FARR.

General locality.—Eastern shore of Wicomico River about 1¼ miles south-southeast of Mills Point and one-fourth mile north of the mouth of Manahowick Creek. (See chart No. 26.)

Immediate locality.—Observed station is about 10 feet above high-water mark, 5 yards east by south of edge of bank, 32 yards north-northwest of several pine trees at fish shanty near edge of bank, 22 yards south by east of other trees, and 300 yards west by north of a large house.

Marks.—Observed station is center point of triangle on standard cement monument buried 16 inches below surface of ground with nail in stub at surface.

References.—	°	′	″	
"Cobb Point Bar Light" (S. 2° 35′ E.)	0	00	00	5¼ miles.
"Rock Point Catholic Church Cross"	8	03	40	3¾ miles.
Chimney on left side of house	42	41	.. ..	1¾ miles.
Left chimney of Crane house	113	40	.. ..	4½ miles.
Left peak of house on Chaptico Wharf.	153	08	.. ..	½ mile.
Left chimney of house on Mills Point farm..	168	34	.. ..	1¼ miles.
Right chimney on Maddox house	242	28	.. ..	2 miles.
Right corner of large house	292	33	.. ..	¼ mile.
Near corner of fish shanty	338	27	.. ..	23.69 meters.

GUST.

General locality.—Western shore of Wicomico River on Windmill Point about three-fourths mile north of the mouth of Hedneys Creek and opposite mouth of Manahowic Creek. (See chart No. 26.)

Immediate locality.—Observed station is on shell and gravel point, bordered by persimmon and cedar trees, about 2 feet above high-water mark, 12 yards northwest of shore, 16 yards south of shore, and 28 yards west-southwest of shore on extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Fact" (N. 20° 09′ E.)	0	00	00	1½ miles.
Nail in blaze in persimmon tree (8 inches diameter)	6	22	.. ..	7.95 meters.
Near peak of roof of house on Chaptico Wharf.	35	32	.. ..	1¼ miles.
Chimney on left side of large house	58	18	.. ..	1⅜ miles.
Chimney on middle of Lyon house	101	24	.. ..	1¾ miles.
Near peak of roof of house with two chimneys.	171	43	.. ..	⅝ mile.
Nail in blaze in cedar tree (4 inches diameter)	204	14	00	5.90 meters.
Nail in blaze in cedar tree (10 inches diameter)	301	03	10	16.18 meters.

LYON.

General locality.—Eastern shore of Wicomico River on a point about ¼ mile north of Bramleigh Creek and 2 miles north by east of Rock Point. (See chart No. 26.)

Immediate locality.—Observed station is on a point of land between the Lyon residence and edge of bank, 100 yards north of small pond which is fringed on river side with cedar trees, about 4 yards north of a bird house on a post, 19 yards east-northeast of most prominent point of bank, 15 yards east-southeast of side of bank, 16 yards north-northeast of another side, and 12 yards south-southwest of a fence.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Weiss" (S. 25° 47′ E.)	0	00	00	1¼ miles.
Nail in blaze in cedar post of bird house support	51	15	20	3.67 meters.
Nail in blaze in pear tree (6 inches diameter)	58	00	50	11.74 meters.
Chimney of house	129	14	..	1⅝ miles.
Left chimney of Crane house	148	52	..	5¼ miles.
Between two chimneys of large brick house	159	59	..	3½ miles.
Near peak of roof between two chimneys of large house	171	56	..	3¾ miles.
West end of peak of roof of house on Chaptico Wharf	186	23	..	1¾ miles.
Corner of fence	198	08	..	14.15 meters.
Near corner of house	247	11	..	22.01 meters.
Right corner of small house	295	38	..	24.59 meters.
Nail in blaze in locust tree (4 inches diameter)	302	02	10	8.82 meters.
Right corner of shed	336	36	..	14.98 meters.

SACRED HEART CHURCH SPIRE (BUSHWOOD).

General locality.—Easterly side of Wicomico River on high land about 1½ miles inland, north by east of Bushwood Wharf. (See chart No. 26.)

Immediate locality.—Observed station is steeple of Sacred Heart Church near Bushwood.

Marks.—Observed station is center of cross on steeple.

References.—None necessary.

HEDNEY.

General locality.—Western shore of Wicomico River on first point above mouth of Charleston Creek and about 1¾ miles northwest of White Point. (See chart No. 26.)

Immediate locality.—Observed station is about 25 feet above high-water mark, 16 yards west-southwest of edge of bank, 139 yards north of large tree at edge of bank, 85 yards north of oak tree at edge of bank, 155 yards east-northeast of gum tree 20 inches diameter on bank of a pond, and about ⅛ mile east-southeast of a house among trees.

Marks.—Observed station is center point of triangle on standard cement monument with top buried 12 inches below the surface of the ground. Surface mark is nail in stub with top 5 inches above surface of ground.

References.—

	°	′	″	
"Sacred Heart Church Spire" (N. 86° 31′ E.)	0	00	00	4½ miles.
Near corner of nearest chimney of four on a large house on hill	7	11	..	4½ miles.
Right chimney of a large house	13	03	..	2 miles.
Middle of island at end of White Point Bar	38	45	..	1⅞ miles.
Nail in blaze in oak tree (48 inches diameter)	50	28	00	73.16 meters.
Nail in blaze in walnut tree (36 inches diameter)	84	52	30	115.63 meters.
Middle of gum tree	147	46	30	138.47 meters.

References—Continued.	°	′	″		
Near peak of roof between two chimneys	239	48	..	.....	¾ mile.
Near chimney on large house	312	19	..	.....	1⅝ miles.
Chimney of Lyon house	352	40	..	.....	1⅛ miles.

CHARLES.

General locality.—Western shore of Wicomico River on first point south of entrance to Charleston Creek, and 1¼ miles north of Rock Point. (See chart No. 26.)

Immediate locality.—Observed station is on a small marshy point about 6 inches above high-water mark and 18 yards east of pine woods on a bank 10 feet above high water. Cement monument marking reference station is 15.56 meters N. 57° 10′ W. of observed station.

Marks.—Observed station is nail in stub with top 2 inches above ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Hard" (S. 17° 38′ E.)	0	00	00	.....	1¼ miles.
Nail in blaze in pine tree (10 inches diameter)	47	51	..	.....	28.46 meters.
Nail in blaze in pine tree (12 inches diameter)	84	58	..	.....	16.66 meters.
Nail in blaze in pine tree (7 inches diameter)	134	22	..	.....	16.87 meters.
REFERENCE STATION	138	28	10	.....	15.56 meters.
West chimney on two-story house	265	53	..	.....	1¼ miles.
"Sacred Heart Church Spire (Bushwood)"	268	03	50	.....	2¾ miles.
West chimney on Garner house	293	51	..	.....	1¾ miles.
West gable of house on Bushwood Wharf	300	07	..	.....	2 miles.

WEISS.

General locality.—Eastern shore of Wicomico River on White Point, about 3 miles north by east of Cobb Point Bar Light. (See chart No. 26.)

Immediate locality.—Observed station is on a bluff near small cedar trees, about 8 feet above high-water mark, 13 yards north of and 27 yards south of edges of bluff and 52 yards east of extreme point.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Cobb Point Bar Light" (S. 11° 43′ W.)	0	00	00	.....	3⅛ miles.
Flagstaff on schoolhouse	40	41	20	.....	1⅝ miles.
Nail in blaze in cedar tree (10 inches diameter)	54	03	10	.....	42.29 meters.
Left chimney on two-story house	155	26	..	.....	¾ mile.
Nail in blaze in poplar tree (3 inches diameter)	181	46	..	.....	6.24 meters.
"Sacred Heart Church Spire"	216	56	30	.....	1¾ miles.
West chimney of Garner house	260	27	..	.....	⅝ mile.
Nail in blaze in poplar tree (4 inches diameter)	266	27	50	.....	37.80 meters.
West gable of house on Bushwood Wharf	284	26	..	.....	⅝ mile.
Left chimney on two-story house	342	10	..	.....	2⅜ miles.

BLAKISTONE.

General locality.—Eastern shore of Wicomico River, about one-fourth mile southeast of Plowdens Wharf at Bushwood, and about 3 miles north-northeast of Cobb Point Bar Light. (See chart No. 26.)

Immediate locality.—Observed station is on second bluff southeast of Bushwood Wharf, 15 feet above high-water mark, 15 yards southeast of a large dogwood tree, about 6 yards northeast of edge of bluff, 3 yards southwest of rail fence, about 15 yards southwest of an ice house near orchard, and 5 to 10 yards south to east of several small cedar trees.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Prec" (S. 18° 42′ W.)	0	00	00	.....	2 miles.
"Rock Point Catholic Church Cross"	51	28	30	.....	2 miles.
Left peak of roof of wharf house	94	16	..	.....	1⅞ miles.
Large tree	117	48	..	.....	13.36 meters.
Chimney of Blakistone store	125	48	..	.....	¼ mile.
Near peak of roof of Blakistone house	176	32	..	.....	250 yards.
Point of cupola on Ranahan house	191	45	..	.....	1¾ miles.
Near left corner of sill of ice house	233	15	..	.....	14.15 meters.
Right lower corner	260	33	..	.....	15.76 meters.
Near peak of roof	312	54	..	.....	¼ mile.

HARD.

General locality.—Western shore of Wicomico River on point of land known as Rock Point about 2 miles north by west of Cobb Point Bar Light. (See chart No. 26.)

Immediate locality.—Observed station is on low point of land near several small cedar trees about 1 foot above high-water mark, 47 yards west of shore, 16 yards south of shore, 30 yards north of shore, about 80 yards northeast by north of Rock Point Wharf, and 170 yards northeast by east of Lancaster's store.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Cobb Point Bar Light" (S. 10° 17′ E.)	0	00	00	.....	2 miles.
Northeast gable of wharf house	41	07	..	.....	80 yards.
"Rock Point Catholic Church Cross"	70	16	20	.....	¼ mile.
South chimney on Lancaster's store	88	53	..	.....	170 yards.
Point of east gable on house	134	44	..	.....	¼ mile.
"Sacred Heart Church Spire"	239	04	20	.....	3 miles.
Gable of house on wharf at Bushwood	256	00	..	.....	1¾ miles.
West gable of house	293	06	..	.....	2 miles.
West gable on one-story house	315	19	..	.....	2¼ miles.
North chimney of two-story house	330	12	..	.....	2½ miles.

ROCK POINT CATHOLIC CHURCH CROSS.

General locality.—Eastern shore of Wicomico River at Rock Point. (See chart No. 26.)

Immediate locality.—Observed station is in settlement called Rock Point. It is on the larger of two similar buildings, the smaller one being the schoolhouse.

Marks.—Observed station is center point of cross on Rock Point Catholic Church.

References.—None necessary.

PREC.

General locality.—Eastern shore of Wicomico River on Bluff Point about 2 miles north-northeast of Cobb Point Bar Light. (See chart No. 26.)

Immediate locality.—Observed station is about 10 feet above high-water mark, 34 yards southeast of nearest end of neck of Bluff Point, 29 yards south-southeast of shore, 16 yards northeast of shore, and 88 yards west by southwest of house.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Cobb Point Bar Light" (S. 28° 37′ W.)	0	00	00	.....	2 miles.
Tangent of woods on Cobb Point	34	04	..	.....	2 miles.
"Rock Point Catholic Church Cross"	70	16	30	.....	1⅝ miles.
Nail in blaze in locust tree (3 inches diameter)	116	14	40	.....	20.64 meters.
Left chimney of Garner house	148	42	..	.....	1⅛ miles.

References—Continued.

	°	′	″		
Nail in blaze in left one of twin locust trees (12 inches diameter)	153	38	20	.....	30.36 meters.
"Sacred Heart Church Spire"	172	15	10	.....	2¾ miles.
Near chimney of Sherrer house	228	37	..	.....	88 yards.
Nail in blaze in poplar tree (6 inches diameter)	243	01	50	.....	33.74 meters.
Nail in blaze in poplar tree (5 inches diameter)	282	00	40	.....	27.71 meters.
Left chimney of cottage	298	22	..	.....	⅛ mile.
Right chimney of Bailey house on St. Margarets Island	336	25	..	.....	1½ miles.

CORNER.

General locality.—Western shore of Wicomico River on the eastern side of an island known as Cobb Point Neck about halfway between Cobb Point and the entrance to Neales Sound. (See chart No. 26.)

Immediate locality.—Observed station is in a cultivated field on a bluff bordered with pine trees about 15 feet above high-water mark, 3 yards west of a wire fence running along edge of bluff and 21 yards east-northeast of a wire fence which separates cornfield from pine woods.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Cobb Point Bar Light" (S. 29° 39′ E.)	0	00	00	.....	1⅜ miles.
Nail in blaze in cedar tree (3 inches diameter)	50	02	..	.....	16.98 meters.
Nail in blaze in pine tree (8 inches diameter)	111	43	..	.....	21.41 meters.
Nail in blaze in pine tree (12 inches diameter)	135	20	..	.....	33.22 meters.
Middle chimney of house	177	07	..	.....	¼ mile.
"Catholic Church Cross"	217	10	10	.....	⅞ mile.
Left chimney of house on St. Margarets Island	318	56	..	.....	1⅝ miles.

ST. MARGARET 2.

General locality.—Northwestern side of Potomac River on the southwestern side of St. Margarets Island in the mouth of the Wicomico River about 1 mile northeast of Cobb Point Bar Light. (See chart No. 26.)

Immediate locality.—Observed station is on a bluff about 12 feet above high-water mark, 15 inches northeast of edge of bluff, 86 yards northwest of cow shed, 129 yards south-southwest of several houses, and 154 yards west-southwest of Bailey (large) house. Cement monument marking reference station is 79.19 meters N. 46° 26′ E. of observed station and at corner of cow shed.

Marks.—Observed station is center of a stub in a 2½-inch tile pipe set in cement with top flush with ground. Reference station is center point of triangle of standard cement monument.

References.—

	°	′	″		
"Cobb Point Bar Light" (S. 53° 22′ W.)	0	00	00	.....	1 mile.
Tangent of Cobb Point	45	13	..	.....	1⅝ miles.
"Rock Point Catholic Church Cross"	83	42	50	.....	1⅞ miles.
Chimney on left of Garner new house	129	40	..	.....	2⅜ miles.
"Sacred Heart Church Spire"	143	27	50	.....	4 miles.
REFERENCE STATION	173	04	15	.....	79.19 meters.
Left chimney of Bailey house	194	51	..	.....	150 yards.
Nearest chimney of small house on Bullock Island	220	26	..	.....	1 mile.
Left chimney of small house on St. Catherine Island	258	32	..	.....	1¼ miles.

COBB POINT BAR LIGHT.

General locality.—Northerly side of Potomac River at mouth of Wicomico River on the southeastern extremity of Cobb Point Bar. (See chart No. 26.)

Immediate locality.—Observed station is on the end of Cobb Point Bar at the mouth of the Wicomico River.

Marks.—Observed station is center point of black lantern on screw pile structure known as "Cobb Point Bar Light."

References.—

	°	′	″		
"Blakistone Island Light" (S. 61° 25′ E.)	0	00	00	.....	5 miles.

RIVER SPRINGS CATHOLIC CHAPEL CROSS.

General locality.—Northern side of Potomac River inland about three-fourths mile north by west of River Springs. (See charts Nos. 25 and 26.)

Immediate locality.—Observed station is on building known as River Springs Catholic Chapel.

Marks.—Observed station is center of cross on River Springs Catholic Chapel.

References.—None necessary.

SOUND.

General locality.—Northern shore of St. Catherine Sound about 2¼ miles east by north of Cobb Point Bar Light and one-fourth mile east of Bullock Island. (See chart No. 26.)

Immediate locality.—Observed station is about 15 feet above high-water mark, 35 yards north of edge of bank, 2 yards east of wire fence, 65 yards east of edge of bank, 57 yards south of southeast corner of fence of house yard, and 63 yards south by west of telephone pole line which is on the same side of the road.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Cobb Point Bar Light" (S. 84° 53′ W.)	0	00	00	.....	2¼ miles.
Right chimney of house on Bullock Island	8	24	..	.....	½ mile.
Near end of small chimney on large house	27	15	..	.....	1 mile.
Left corner post of fence	65	05	..	.....	Near.
Near corner of chimney of small house	86	25	..	.....	Near.
Near corner post of fence	100	58	..	.....	Near.
Right peak of roof of barn	115	20	..	.....	Near.
"River Springs Catholic Chapel Cross"	148	31	10	.....	1 mile.
Chimney of Blakistone store	189	16	..	.....	½ mile.
Near chimney of Bailey house	217	59	..	.....	½ mile.
Chimney on smaller house on St. Catherine Island	323	03	..	.....	¾ mile.

BAILEY.

General locality.—Northeastern shore of St. Catherine Sound, about three-fourths mile east by north of eastern end of St. Catherine Island and 1 mile north of the Potomac River. (See chart No. 26.)

Immediate locality.—Observed station is on shelly ground on Bailey property, about 5 feet above high-water mark, 10 yards northeast of high-water mark, 7 yards northeast of a wire fence, 35 yards south-southeast of corner of wire fence, 30 yards north-northwest of corner of wire and wooden fences, 25 yards north of Bailey house, and 40 yards west by south of corner of wooden fence.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Cobb Point Bar Light" (N. 88° 11′ W.)	0	00	00	.....	2⅝ miles.
Nail in blaze in one of four cedar trees (3 inches diameter)	13	29	..	.....	12.37 meters.
Nail in blaze in cedar tree (8 inches diameter)	44	59	..	.....	27.82 meters.
Corner of wire fence	46	29	..	.....	32.06 meters.
Chimney on house	90	38	..	.....	150 yards.
"River Springs Catholic Chapel Cross"	113	06	00	.....	1 mile.
Corner of wooden fence	175	52	..	.....	37.49 meters.

References—Continued.	°	′	″		
Chimney of Bailey house	203	26	..	.....	25 yards.
Junction of wire and wooden fences	254	35	..	.....	26.22 meters.
Left chimney of house on Waterloo Point	277	43	..	.....	¾ mile.
Nail in blaze in first of six cedar trees	297	27	..	.....	10.76 meters.
Right chimney of small house on St. Catherine Island	348	02	..	.....	1 mile.

ST. CATHERINE.

General locality.—Southern shore of St. Catherine Sound, on the northern side of St. Catherine Island. (See chart No. 26.)

Immediate locality.—Observed station is about 12 feet above high-water mark, 86 yards south of edge of bank, 49 yards west of line of young cedar trees, 198 yards northeast of a lone mulberry tree 3 feet in diameter, and 207 yards southeast of small house among trees.

Marks.—Observed station is center point of triangle on standard cement monument with top 12 inches below the surface.

References.—	°	′	″		
"Cobb Point Bar Light" (N. 81° 08′ W.)	0	00	00	.....	1⅞ miles.
Right side of right chimney on small house	13	04	..	.....	207 yards.
Left chimney of large house on St. Margarets Island	34	42	..	.....	1⅜ miles.
Right chimney of house on Bullock Island	66	01	..	.....	½ mile.
Chimney of Blackistone house	117	39	..	.....	⅝ mile.
"River Springs Catholic Chapel Cross"	129	17	40	.....	1⅝ miles.
Left chimney of Bailey house	158	19	..	.....	⅞ mile.
Right chimney of Young house on Waterloo Point	207	48	..	.....	⅞ mile.

WATERLOO.

General locality.—Southeastern shore of St. Catherine Sound, about three-fourths mile east-southeast of St. Catherine Island and about one-fourth mile north of Potomac River. (See chart No. 26.)

Immediate locality.—Observed station is at top of rise in field, about 8 feet above high-water mark, 48 yards east by south of shore at a point where several mulberry trees stand, 43 yards south of large sugarberry tree, 19 yards south by east of wire-fence post, and 200 yards north of Young house on Waterloo Farm.

Marks.—Observed station is center point of triangle on standard cement monument, with top 12 inches below surface of ground.

References.—	°	′	″		
"Sound" (N. 18° 41′ W.)	0	00	00	.....	1 mile.
Near end of peak of Blackistone barn	3	02	..	.....	1 mile.
"Sacred Heart Church Spire (Bushwood)"	10	37	20	.....	5 miles.
Peak of gable of Blackistone house at River Springs	21	54	..	.....	⅞ mile.
Near peak of roof of Bailey house	31	01	..	.....	¾ mile.
Near peak of roof of Yates house	49	13	..	.....	½ mile.
Near peak of roof of Quaid house	71	25	..	.....	¼ mile.
Near peak of house	92	31	..	.....	½ mile.
Nail in blaze in apple tree (5 inches diameter)	111	20	30	.....	34.78 meters.
Nail in blaze 8-inch branch on apple tree (14 inches diameter)	153	34	20	.....	24.90 meters.
Nail in blaze in apple tree (6 inches diameter)	203	50	00	.....	26.18 meters.
Near peak of roof of Young house	206	57	..	.....	200 yards.
Left tangent of St. Catherine Island	300	21	..	.....	¾ mile.
Right chimney of roof of house on Bullock Island	337	19	..	.....	1⅜ miles.
Near peak of roof of house	352	57	..	.....	1¾ miles.

BOUNDARIES OF OYSTER BARS.

EXPLANATION.

The law of the United States authorizing the cooperation of the Department of Commerce and Labor in the survey of natural oyster beds of Maryland provides for the designation and employment by the Department of Commerce and Labor of such officers, experts, and other technically qualified persons "as may be necessary to cooperate with the Maryland State Board of Shell Fish Commissioners in making a survey of and locating the natural oyster beds, bars, and rocks in the waters within the State of Maryland." The oyster laws of Maryland provide that the Maryland Shell Fish Commissioners, with the aid of such persons as may be designated by the Government, shall proceed "to have laid out, surveyed, and designated on the said charts the natural beds and bars, and shall cause to be marked and defined as accurately as practicable the limits and boundaries of the natural beds, bars, and rocks as established by said survey, and they shall take true and accurate notes of said survey in writing, and make an accurate report of said survey, setting forth such a description of landmarks as may be necessary to enable the said board, or their successors, to find and ascertain the boundary lines of the said natural oyster beds, bars, and rocks, as shown by a delineation on the maps and charts." The oyster laws of Maryland also provide in another section that there shall "be made a true and accurate survey of the natural oyster beds, bars, and rocks * * * with reference to fixed and permanent objects on the shore, giving courses and distances, to be fully described and set out in a written report of said survey."

Under the provisions of the laws quoted above the State of Maryland, in cooperation with the Department of Commerce and Labor, must define the boundaries of the natural oyster bars "as accurately as practicable" and also "with reference to fixed and permanent objects on the shore, giving courses and distances." The requirement of "as accurately as practicable" is easily fulfilled by definition of the location of the corners of the oyster bars by latitude and longitude. In fact, this method is probably the most satisfactory and accurate one that could be used for all purposes of legal definition or for relocation of the oyster-bar boundaries by competent engineers. Therefore the additional requirement of "giving courses and distances" is superfluous and is only fulfilled in the published definitions on account of the specific provisions of the law making it compulsory. This part of the description of boundaries has involved an immense amount of extra computations in order to prevent technical discrepancies between the latitude and longitude of a corner of an oyster bar and its distance and bearing from objects on shore of known latitude and longitude without adding anything to the accuracy and very little to the convenience in the practical use of the descriptions of the oyster-bar boundaries.

As provided by law, the boundaries of the oyster bars are all straight lines, but in the work already completed they have inclosed areas of all shapes from triangles to

complicated 14-sided figures and of all sizes from 4 acres to 7,548 acres. The sides have varied in length from 93 to 7,529 yards, and in some cases the corners of the boundaries have been practically at the triangulation stations from which they are located, while in other instances they were over 13,600 yards from the landmarks most available for the purpose of fixing their position.

The varied characteristics of the legal boundaries of the oyster bars indicated by the above statement, together with the complicated requirements of the law under which the survey has been made and the magnitude of the work, with the consequent need of fixed and uniform methods, have made the problem of describing the boundaries one of considerable difficulty and great importance.

The boundaries of the oyster bars of Maryland, as established by the shell fish commission and delineated on the Coast and Geodetic Survey charts and projections and on the leasing charts of the commission, are technically defined and described by a method somewhat different from that used in other oyster surveys. But it is believed that the forms finally adopted will fulfill all needs of the survey for both the present and the future.

METHOD OF DESCRIBING BOUNDARIES.

The descriptions have been arranged in tabular form, thus avoiding many hundred repetitions of the same words by making one explanation of the tables sufficient for all oyster bars in each county.

Title.—At the top of each tabular form is given the legal name of the oyster bar to be described and the one by which it is known and designated in the published oyster records and on the oyster charts. The adopted name of the oyster bar is the one used locally, as nearly as could be ascertained by the hydrographic engineer of the commission; and when there was no local name in common use a name was selected from one of the prominent features of the vicinity that would naturally suggest the section of the waters where the oyster bar was located.

Underneath the name in parentheses is given the general locality of the oyster bar and the serial number of the Maryland Oyster Chart on which its legal boundaries are shown.[1]

First column.—This column, under the heading of "Corner of bar," gives the number corresponding to the corner of the boundary as shown on the charts and to the number on the buoy marking the actual corner of the bar. The numbers of the corners have been assigned by naming the southernmost point No. 1, thence proceeding in a clockwise direction around the bar. Where the corner of one oyster bar is identical with the corner of the boundaries of one or more other oyster bars, only the number of the corner of the oyster bar being described in the table is given in this column.

Second and third columns.—These two columns, under the headings of "Latitude" and "Longitude," give the geographic positions of the corners. These positions have been adopted by the commission as the primary technical definition of the location of the corners, and should be considered as final in case of a dispute arising from discrepancies caused by other means of location. The latitudes and longitudes given in these columns are based on the United States standard datum of the Coast and Geodetic

[1] These charts can be obtained by application to the Superintendent of the Coast and Geodetic Survey at Washington, D. C.

Survey, and the points thus defined can be relocated from distant triangulation stations of the survey, even though all the landmarks and buoys originally used for their location have been destroyed by natural or other causes.

Fourth and fifth columns.—These two columns, under the general heading of "True bearing"[1] and the specific headings "Forward" and "Back," give bearings measured from a true north-and-south line. The three "Forward" bearings are from the corner of the boundary designated in the first column to the triangulation stations named on the corresponding lines in the last column, and the three "Back" bearings are from these same stations in the last column to the corresponding corner of boundary in the first column. The difference in minutes of arc between the forward and back bearings shown in some cases is actual and not accidental, and is due to the fact that the computations took into account the spheroidal shape of the earth.

Sixth column.—This column, under the heading of "Distance," gives the three computed distances in yards from the corner of the bar noted in the first column to the three triangulation stations named on the corresponding lines in the last column, and vice versa.

Seventh column.—This column, under the heading of "U. S. C. & G. S. triangulation station,"[2] gives the names of the landmarks from which were computed the corresponding "Latitude," "Longitude," "True bearing," and "Distance" of the "Corner of the bar" designated in the first column. A full description of the location and markings of these triangulation stations is given in another part of this publication under the heading of "Descriptions of triangulation stations."

SURVEYING METHODS FOR RELOCATION OF BOUNDARIES.

There are a number of methods that can be used in the relocation of the actual boundaries of the natural oyster bars as technically described in this publication and delineated on the published charts of the Coast and Geodetic Survey and the leasing charts of the shellfish commission.

The following brief descriptions of five of these more or less different methods assume a certain amount of experience and knowledge on the part of the engineer in the particular kind of surveying under consideration, and are only intended as reminders of ways and means that can be used.

There are two problems that are likely to present themselves to those interested in the boundaries of natural oyster bars—one, to determine whether the buoys marking the corners have been dragged or otherwise moved from their correct positions, and the other, to relocate or reestablish a buoy at the point from which it was removed. The different ways of solving these two problems partly depend upon the instruments possessed by the engineer and his assistants and partly on his training and experience.

(1) *Triangulation.*—This method is the one that will give the greatest accuracy, but on account of its requiring special data and instruments, and being an operation rarely used by engineers not engaged in geodetic surveying, it is recommended only for cases in dispute that can not be settled satisfactorily by some other method. An

[1] The mean magnetic variation for St. Marys County was 5° 25′ west of north in 1910 and increasing at the rate of 4′ yearly.

[2] Geographic positions of these triangulation stations can be obtained by application to the Superintendent of the Coast and Geodetic Survey, Washington, D. C.

explanation of this class of work would be too long for a report of this sort, and those not familiar with this method are referred to the publications on the subject by the Coast and Geodetic Survey.

(2) *Hydrographic.*—This method is the most simple and satisfactory one that can be adopted if the surveyor can obtain the use of the necessary instruments and assistants. It is the one best suited for the work of the engineers of the commission in relocating corners of boundaries, as it gives results of the accuracy ordinarily required and is rapid in execution. Besides, it has the advantage of being available whenever three triangulation stations of suitable relative positions are visible from the offshore points needing relocation.

Most navigators and others familiar with the use of a sextant are well acquainted with the graphic three-point method of fixing a position on water, and only a brief description of the operation will be stated.

In the case where there is only one engineer having a single sextant the three-point method can be used if the two angles determining the position of a buoy are first derived from the "Forward" bearings given in the tabular forms describing the boundaries of the oyster bars. For example, take "Brooks Shallows" oyster bar, which is the first one described in this publication, and assume that "Corner No. 3" is to be examined as to its position. The angle between the two landmarks "Dwarf" and "Hallowing" as determined from right to left from the forward bearings from this corner is 54° 50′ and the angle between "Hallowing" and "Indian" is 77° 10′. Having these two angles, the engineer proceeds to the buoy of doubtful location and measures the actual sextant angles between the landmarks for which the calculations were made. If the measured and calculated angles do not agree the buoy is not in its correct position and the boundary corner must be relocated. This is accomplished by moving the boat about until a point is reached where the angles do agree, and this point being the desired location, the buoy can be placed in its correct position.

If the engineer can obtain the use of both a sextant and a three-arm protractor ("position finder"), the availability of the hydrographic method is increased, as the use of the protractor is essential in case of the washing away or destruction of one or more of the landmarks originally used in describing the boundaries. Under these circumstances, any three landmarks of suitable relative position that are visible from the point to be located can be utilized. For example, the engineer can proceed to the buoy of doubtful position and measure the two adjacent sextant angles between the three landmarks selected. These two angles are set off on the three-arm protractor and the actual position of the buoy plotted on the chart by shifting the protractor about until the edge of each of the three arms passes through the center of the symbols on the chart marking the position of the three landmarks selected. The center of the hub of the protractor will indicate on the chart the actual position of the buoy, and if the point thus obtained does not coincide with the true position of the corner of the boundary as given on the chart the surveyor can proceed to locate the buoy correctly by reversing the operation. This is done by placing the center point of the hub of the protractor over the corner of the boundary in question and measuring on the chart the two adjacent protractor angles between the three selected landmarks. One of the angles thus obtained is set on the sextant and the boat moved about until the two landmarks are shown by the

sextant to subtend the same angle obtained from the protractor. The second angle is then placed on the sextant and the same operation gone through, and so on, first using one angle on the sextant then the other until a point is reached where both observed sextant angles are practically identical with the protractor angles. The point thus located is the desired one and the buoy can be placed to mark the true position of the corner of the boundary in question.

If the engineer possesses two sextants and a protractor, this problem is far easier of solution, as the two angles can be set off on separate sextants and the observer can quickly find the desired point where they agree with the protractor angles by using one sextant after the other without the need of resetting either.

If there are two observers, two sextants, and a protractor, it can be seen that the best conditions for both rapid and accurate hydrographic location of a point is attained. In fact, this is the method by which the buoys at the corners of the boundaries were originally placed by the hydrographic engineer to the commission.

(3) *Magnetic bearings from offshore.*—This method of fixing a position on water is a simple and well-known one in navigation. It is available to anyone having a boat compass and will be of special use to the State fishery force in investigating cases where buoys are supposed to have been moved for illegal purposes.

In the case where a buoy is supposed to have been moved from its true position the observer can take compass bearings to the three landmarks given in the last column of the tables opposite the boundary corner in question. These bearings are then corrected for the local declination,[1] and if the results agree with the published bearings the buoy is correctly located.

In the case where the buoy is not in its correct position, or has disappeared altogether, the desired point can be determined by maneuvering the vessel until the corrected bearings agree with the ones in the tabular descriptions, when the buoy can be anchored in its proper location.

In the case where the landmarks for which the bearings are published have been destroyed or washed away any landmarks whose positions are indicated on the charts can be used. This can be done by getting their bearings directly from the chart by parallel rulers or a protractor and then applying these new bearings in the same manner as the ones published in the tables.

(4) *Magnetic bearings from shore.*—This method will be of special value to engineers having an ordinary surveyor's compass. The compass can be set over the point marking a "triangulation station" on shore, the name of which is given in the last column opposite the "corner" in question. The instrument is then set at the corresponding "back" bearing (corrected for local magnetic declination) given in the fifth column of the tables opposite the "corner" in question. The direction thus determined will give one range on which the desired point must be located. The compass can then be moved to a second triangulation station and another range located in a similar manner. The intersection of these two range lines will give the desired point, but in general it should be checked by an additional range line determined from a third station.

(5) *Horizontal angles measured at landmarks.*—This process is a modification of the triangulation method, and will be useful to engineers who have a transit and desire considerable accuracy.

[1] The mean magnetic variation for St. Marys County is 5° 25′ west of north in 1910 and increasing at the rate of 4′ yearly.

The instrument is placed over a "triangulation station," the name of which appears in the last column of the tabular description opposite the "corner" in question. The telescope is then pointed to the landmark indicated in the "Descriptions of landmarks" as having a direction of 0° 00′ 00″ from the triangulation station being occupied by the transit. The tabular description of the boundaries is next examined and the "back" bearing of the questionable boundary "corner" from the landmark being occupied is taken out. The angle calculated from this "back" bearing and the bearing given in parentheses alongside the zero landmark in the "Descriptions of landmarks" is then set off on the transit and a range line established on which the desired point must be located. A similar process is then carried on at a second station, and so on until the position of the buoy is satisfactorily fixed.

BOUNDARIES OF NATURAL OYSTER BARS.

BROOKS SHALLOWS.

(*Upper Patuxent River—Chart No. 19.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 29 57.18	76 40 31.45	S. 86 50 E.	N. 86 49 W.	1,171	Dwarf.
			N. 38 18 E.	S. 38 18 W.	1,512	Hallowing.
			N. 20 33 W.	S. 20 33 E.	916	Indian.
2	38 30 03.78	76 40 31.64	S. 76 15 E.	N. 76 15 W.	1,210	Dwarf.
			N. 44 20 E.	S. 44 21 W.	1,348	Hallowing.
			N. 26 29 W.	S. 26 29 E.	710	Indian.
3	38 30 04.02	76 40 24.36	S. 73 15 E.	N. 73 15 W.	1,025	Dwarf.
			N. 38 05 E.	S. 38 06 W.	1,215	Hallowing.
			N. 39 05 W.	S. 39 05 E.	808	Indian.
4	38 29 57.54	76 40 23.78	S. 85 27 E.	N. 85 27 W.	969	Dwarf.
			N. 32 00 E.	S. 32 01 W.	1,386	Hallowing.
			N. 31 45 W.	S. 31 46 E.	995	Indian.

SOTHORON.

(*Upper Patuxent River—Chart No. 19.*)

1	38 29 26.59	76 40 07.29	N. 89 19 E.	S. 89 20 W.	1,442	Buzz.
			N. 28 42 E.	S. 28 42 W.	1,102	Dwarf.
			N. 56 12 W.	S. 56 13 E.	258	Sothoron.
2	38 29 36.28	76 40 09.57	S. 39 58 W.	N. 39 58 E.	239	Sothoron.
			S. 78 22 E.	N. 78 21 W.	1,534	Buzz.
			N. 42 39 E.	S. 42 39 W.	871	Dwarf.
3	38 29 37.52	76 39 59.48	S. 74 05 E.	N. 74 05 W.	1,284	Buzz.
			N. 28 19 E.	S. 28 19 W.	681	Dwarf.
			S. 61 51 W.	N. 61 51 E.	478	Sothoron.
4	38 29 26.88	76 40 00.94	N. 89 40 E.	S. 89 40 W.	1,274	Buzz.
			N. 20 40 E.	S. 20 40 W.	1,023	Dwarf.
			N. 70 45 W.	S. 70 45 E.	405	Sothoron.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

BROAD NECK (ST. MARYS COUNTY).

(Upper Patuxent River—Chart No. 19.)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	Yards.	
1	38 27 36.14	76 39 10.54	N. 34 58 E.	S. 34 58 W.	1,137	Sheridan.
			N. 28 35 W.	S. 28 35 E.	1,290	Collins.
			S. 52 54 W.	N. 52 54 E.	626	Cremona.
2	38 27 57.42	76 39 27.00	S. 3 17 W.	N. 3 17 E.	1,097	Cremona.
			N. 78 51 E.	S. 78 51 W.	1,109	Sheridan.
			N. 23 32 W.	S. 23 32 E.	454	Collins.
3	38 28 00.34	76 39 09.64	N. 63 40 W.	S. 63 41 E.	715	Collins.
			S. 23 40 W.	N. 23 40 E.	1,304	Cremona.
			N. 79 34 E.	S. 79 34 W.	639	Sheridan.
	Thence along county boundary as delineated on Chart No. 19 to corner No. 4.					
4	38 27 41.18	76 39 00.00	N. 26 03 E.	S. 26 03 W.	848	Sheridan.
			N. 42 57 W.	S. 42 57 E.	1,317	Collins.
			S. 54 49 W.	N. 54 49 E.	952	Cremona.

THOMAS (ST. MARYS COUNTY).

(Upper Patuxent River—Chart No. 19.)

1	38 26 47.41	76 38 21.12	N. 72 51 W.	S. 72 51 E.	635	Oppkit.
			S. 17 35 E.	N. 17 34 W.	1,839	Fight.
			N. 43 44 E.	S. 43 44 W.	2,218	Kitt.
2	38 27 41.18	76 39 00.00	N. 26 03 E.	S. 26 03 W.	848	Sheridan.
			N. 42 57 W.	S. 42 57 E.	1,317	Collins.
			S. 54 49 W.	N. 54 49 E.	952	Cremona.
	Thence along county boundary as delineated on Chart No. 19 to corner No. 3.					
3	38 27 12.58	76 38 14.84	N. 61 07 E.	S. 61 07 W.	1,561	Kitt.
			N. 25 33 W.	S. 25 33 E.	1,914	Sheridan.
			S. 49 29 W.	N. 49 29 E.	1,018	Oppkit.

SANDGATES.

(Middle Patuxent River—Chart No. 19.)

1	38 25 01.66	76 36 45.53	S. 45 16 E.	N. 45 16 W.	675	Forr.
			N. 41 54 E.	S. 41 55 W.	2,924	Photo.
			N. 47 36 W.	S. 47 37 E.	2,688	Fight.
2	38 25 09.06	76 36 57.58	S. 47 48 E.	N. 47 48 W.	1,078	Forr.
			N. 49 42 E.	S. 49 43 W.	2,980	Photo.
			N. 46 49 W.	S. 46 50 E.	2,285	Fight.
3	38 25 28.46	76 36 50.40	S. 23 49 E.	N. 23 49 W.	1,507	Forr.
			N. 58 30 E.	S. 58 30 W.	2,437	Photo.
			N. 63 54 W.	S. 63 55 E.	2,067	Fight.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

SANDGATES—Continued.

(*Middle Patuxent River—Chart No. 19.*)

Corner of bar.	Latitude.	Longtiude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
4	38 25 47.34	76 37 23.27	N. 74 33 W.	S. 74 33 E.	1,021	Fight.
			S. 36 18 E.	N. 36 18 W.	2,500	Forr.
			N. 77 50 E.	S. 77 51 W.	3,022	Photo.
5	38 25 54.57	76 37 15.44	N. 88 38 W.	S. 88 39 E.	1,192	Fight.
			S. 29 24 E.	N. 29 23 W.	2,593	Forr.
			N. 81 52 E.	S. 81 53 W.	2,774	Photo.
6	38 25 30.21	76 36 37.39	S. 10 23 E.	N. 10 23 W.	1,461	Forr.
			N. 55 03 E.	S. 55 04 W.	2,119	Photo.
			N. 68 53 W.	S. 68 54 E.	2,360	Fight.

UPPER FORREST.

(*Middle Patuxent River—Chart No. 19.*)

1	38 24 45.22	76 36 02.57	N. 59 04 E.	S. 59 05 W.	2,846	Slim.
			N. 16 36 E.	S. 16 36 W.	2,850	Photo.
			N. 83 08 W.	S. 83 08 E.	666	Forr.
2	38 24 48.95	76 36 11.88	N. 63 34 E.	S. 63 35 W.	3,002	Slim.
			N. 22 09 E.	S. 22 10 W.	2,813	Photo.
			S. 83 38 W.	N. 83 37 E.	417	Forr.
3	38 25 15.09	76 36 13.64	S. 21 35 W.	N. 21 35 E.	997	Forr.
			N. 80 33 E.	S. 80 34 W.	2,773	Slim.
			N. 32 43 E.	S. 32 43 W.	2,048	Photo.
4	38 25 09.14	76 36 05.04	S. 39 18 W.	N. 39 18 E.	939	Forr.
			N. 74 59 E.	S. 75 00 W.	2,595	Slim.
			N. 24 33 E.	S. 24 34 W.	2,116	Photo.

LOWER FORREST.

(*Middle Patuxent River—Chart No. 19.*)

1	38 24 22.16	76 35 33.18	S. 32 41 E.	N. 32 41 W.	888	Cole.
			N. 36 34 E.	S. 36 35 W.	2,789	Slim.
			N. 59 15 W.	S. 59 15 E.	1,676	Forr.
2	38 24 30.16	76 35 41.64	S. 34 42 E.	N. 34 41 W.	1,237	Sole.
			N. 43 45 E.	S. 43 45 W.	2,727	Slim.
			N. 64 13 W.	S. 64 13 E.	1,351	Forr.
3	38 24 36.20	76 35 34.00	S. 22 20 E.	N. 22 20 W.	1,320	Cole.
			N. 43 37 E.	S. 43 38 W.	2,440	Slim.
			N. 74 52 W.	S. 74 53 E.	1,470	Forr.
4	38 24 28.25	76 35 26.00	S. 16 53 E.	N. 16 53 W.	996	Cole.
			N. 35 56 E.	S. 35 56 W.	2,507	Slim.
			N. 68 13 W.	S. 68 14 E.	1,756	Forr.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

GATTON.

(*Middle Patuxent River—Chart No. 19.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 23 26.43	76 32 54.98	S. 48 28 W.	N. 48 28 E.	442	Hutchins.
			S. 51 46 E.	N. 51 46 W.	1,404	Bars.
			N. 29 03 E.	S. 29 04 W.	2,263	Island.
2	38 23 33.36	76 34 06.58	S. 71 28 E.	N. 71 27 W.	1,656	Hutchins.
			N. 59 48 E.	S. 59 50 W.	3,469	Island.
			N. 63 43 W.	S. 63 43 E.	2,029	Cole.
3	38 23 45.80	76 34 06.30	S. 58 49 E.	N. 58 48 W.	1,826	Hutchins.
			N. 66 06 E.	S. 66 07 W.	3,272	Island.
			N. 75 18 W.	S. 75 19 E.	1,888	Cole.
4	38 23 46.90	76 33 39.02	S. 40 28 E.	N. 40 28 W.	1,292	Hutchins.
			N. 60 24 E.	S. 60 25 W.	2,607	Island.
			N. 80 10 W.	S. 80 11 E.	2,587	Cole.
5	38 23 30.68	76 32 54.26	S. 38 43 W.	N. 38 43 E.	559	Hutchins.
			S. 46 57 E.	N. 46 57 W.	1,483	Bars.
			N. 30 29 E.	S. 30 29 W.	2,129	Island.

CAPTAIN POINT.

(*Middle Patuxent River—Chart No. 19.*)

1	38 23 01.40	76 32 04.82	S. 83 52 W.	N. 83 51 E.	230	Bars.
			S. 40 32 E.	N. 40 31 W.	2,137	Stock.
			N. 71 04 E.	S. 71 04 W.	2,569	Wheat.
2	38 23 06.18	76 32 11.74	N. 75 13 W.	S. 75 13 E.	1,529	Hutchins.
			S. 13 39 W.	N. 13 39 E.	191	Bars.
			N. 75 34 E.	S. 75 35 W.	2,699	Wheat.
3	38 23 10.34	76 32 06.79	N. 81 11 W.	S. 81 11 E.	1,628	Hutchins.
			S. 28 26 W.	N. 28 26 E.	371	Bars.
			N. 77 54 E.	S. 77 55 W.	2,538	Wheat
4	38 23 05.78	76 32 00.25	S. 63 48 W.	N. 63 48 E.	390	Bars.
			S. 35 34 E.	N. 35 34 W.	2,178	Stock.
			N. 73 27 E.	S. 73 28 W.	2,408	Wheat.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

PETERSON (ST. MARYS COUNTY).

(*Middle Patuxent River—Charts Nos. 19 and 20.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 23 12.22	76 31 11.86	S. 76 36 W.	N. 76 35 E.	1,669	Bars.
			S. 0 30 W.	N. 0 30 E.	1,989	Stock.
			N. 65 25 E.	S. 65 24 W.	1,126	Wheat.
2	38 23 33.08	76 32 03.82	N. 8 23 W.	S. 8 24 E.	1,773	Island.
			S. 72 59 W.	N. 72 58 E.	1,766	Hutchins.
			S. 13 09 W.	N. 13 09 E	1,122	Bars.
3	38 23 44.44	76 31 50.08	N. 30 01 E.	S. 30 01 W.	1,818	Peak.
			N. 24 27 W.	S. 24 27 E.	1,506	Island.
			S. 22 47 W.	N. 22 47 E.	1,601	Bars.

Thence along county boundary as delineated on charts Nos. 19 and 20 to corner No. 1.

NEALE.

(*Lower Patuxent River—Charts Nos. 19 and 20.*)

1	38 22 12.38	76 31 08.24	S. 48 38 E.	N. 48 38 W.	1,733	Briscoe.
			N. 65 21 E.	S. 65 22 W.	2,803	Lend.
			N. 75 51 W.	S. 75 51 E.	117	Stock.
2	38 22 36.50	76 31 41.34	S. 43 37 E.	N. 43 37 W.	1,084	Stock.
			N. 47 11 W.	S. 47 11 E.	2,463	Wheat.
			N. 46 16 W.	S. 46 17 E.	1,179	Bars.
3	38 22 59.46	76 31 09.58	N. 47 03 W.	S. 47 03 E.	1,317	Wheat.
			N. 88 37 W.	S. 88 38 E.	1,695	Bars.
			S. 2 52 W.	N. 2 52 E.	1,561	Stock.
4	38 22 25.60	76 30 51.72	N. 41 45 E.	S. 41 46 W.	2,236	Sollers.
			N. 13 30 E.	S. 13 30 W.	2,099	Wheat.
			S. 52 56 W.	N. 52 56 E.	692	Stock.

MEARS (ST. MARYS COUNTY).

(*Lower Patuxent River—Charts Nos. 19 and 20.*)

1	38 22 13.42	76 30 03.46	N. 36 08 E.	S. 36 09 W.	1,403	Lend.
			S. 89 59 W.	N. 89 59 E.	1,833	Stock.
			S. 19 34 W.	N. 19 34 E.	1,251	Briscoe.
2	38 22 16.00	76 30 23.80	S. 85 52 W.	N. 85 52 E.	1,297	Stock.
			S. 5 27 E.	N. 5 27 W.	1,273	Briscoe.
			N. 52 35 E.	S. 52 35 W.	1,722	Lend.
3	38 22 48.14	76 30 44.62	N. 88 53 E.	S. 88 54 W.	1,920	Lend.
			N. 55 05 E.	S. 55 05 W.	1,587	Sollers.
			N. 13 16 E.	S. 13 16 W.	1,313	Wheat.

Thence along county boundary as delineated on charts Nos. 19 and 20 to corner No. 1.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

HALF PONE.

(*Lower Patuxent River—Chart No. 20.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 21 47.27	76 30 37.34	S. 58 08 E.	N. 58 08 W.	565	Briscoe.
			N. 40 36 E.	S. 40 36 W.	2,654	Lend.
			N. 46 51 W.	S. 46 52 E.	1,280	Stock.
2	38 21 56.15	76 30 49.42	S. 53 16 E.	N. 53 15 W.	1,000	Briscoe.
			N. 50 02 E.	S. 50 03 W.	2,672	Lend.
			N. 46 48 W.	S. 46 48 E.	841	Stock.
3	38 22 08.82	76 30 33.26	S. 19 57 E.	N. 19 57 W.	1,091	Briscoe.
			N. 51 29 E.	S. 51 29 W.	2,069	Lend.
			N. 81 53 W.	S. 81 53 E.	1,053	Stock.
4	38 21 53.69	76 30 24.36	S. 14 47 E.	N. 14 47 W.	533	Briscoe.
			N. 37 33 E.	S. 37 33 W.	2,268	Lend.
			N. 62 44 W.	S. 62 45 E.	1,438	Stock.

HAWKS NEST.

(*Lower Patuxent River—Chart No. 20.*)

1	38 20 00.53	76 29 19.14	N. 68 41 W.	S. 68 41 E.	385	Mill.
			S. 7 40 W.	N. 7 40 E.	1,375	Cable.
			S. 60 27 E.	N. 60 27 W.	641	Bur.
2	38 20 11.78	76 29 35.80	S. 15 34 E.	N. 15 34 W.	248	Mill.
			S. 55 11 E.	N. 55 11 W.	1,217	Bur.
			N. 71 35 E.	S. 71 36 W.	2,194	Ton.
3	38 20 25.60	76 29 44.06	S. 23 16 E.	N. 23 16 W.	768	Mill.
			N. 84 23 E.	S. 84 23 W.	2,312	Ton.
			N. 45 52 E.	S. 45 53 W.	2,289	Hellen.
4	38 20 45.56	76 29 42.62	S. 10 53 E.	N. 10 53 W.	1,403	Mill.
			N. 60 07 E.	S. 60 08 W.	1,855	Hellen.
			N. 54 56 W.	S. 54 56 E.	366	Nat.
5	38 21 15.90	76 29 58.00	S. 7 37 E.	N. 7 37 W.	821	Nat.
			S. 87 08 E.	N. 87 07 W.	2,020	Hellen.
			N. 36 37 W.	S. 36 37 E.	945	Briscoe.
6	38 21 18.88	76 29 48.21	S. 9 26 W.	N. 9 26 E.	923	Nat.
			S. 83 32 E.	N. 83 31 W.	1,768	Hellen.
			N. 51 22 W.	S. 51 22 E.	1,054	Briscoe.
7	38 20 35.88	76 29 09.36	S. 30 30 W.	N. 30 30 E.	1,218	Mill.
			S. 85 02 E.	N. 85 01 W.	1,384	Ton.
			N. 30 06 E.	S. 30 07 W.	1,446	Hellen.
8	38 20 09.04	76 29 12.27	S. 74 48 W.	N. 74 48 E.	561	Mill.
			S. 31 52 E.	N. 31 52 W.	710	Bur.
			N. 61 41 E.	S. 61 41 W.	1,655	Ton.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

BOB WISE.

(*Lower Patuxent River—Chart No. 20.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 19 24.58	76 29 16.71	S. 81 02 E.	N. 81 01 W.	1,208	Town.
			N. 28 48 E.	S. 28 48 W.	1,022	Bur.
			S. 58 47 W.	N. 58 47 E.	290	Cable.
2	38 19 30.38	76 29 26.83	S. 3 26 E.	N. 3 26 W.	347	Cable.
			S. 75 15 E.	N. 75 15 W.	1,512	Town.
			N. 47 23 E.	S. 47 23 W.	1,034	Bur.
3	38 19 57.28	76 29 24.58	N. 40 38 W.	S. 40 38 E.	329	Mill.
			S. 01 47 W.	N. 01 47 E.	1,254	Cable.
			S. 73 37 E.	N. 73 37 W.	732	Bur.
4	38 19 52.74	76 29 15.14	N. 49 06 W.	S. 49 06 E.	614	Mill.
			S. 14 48 W.	N. 14 48 E.	1,137	Cable.
			S. 83 16 E.	N. 83 16 W.	454	Bur.
	Thence along county boundary as delineated on Chart No. 20 to corner No. 5.					
5	38 19 32.82	76 29 15.02	S. 34 21 W.	N. 34 21 E.	518	Cable.
			S. 67 53 E.	N. 67 53 W.	1,240	Town.
			N. 35 55 E.	S. 35 55 W.	763	Bur.

SPENCERS.

(*Lower Patuxent River—Chart No. 20.*)

1	38 19 22.55	76 28 37.04	N. 30 11 W.	S. 30 11 E.	1,115	Bur.
			S. 38 16 W.	N. 38 16 E.	413	Crane.
			S. 49 15 E.	N. 49 15 W.	185	Town.
2	38 19 24.58	76 29 16.71	S. 81 02 E.	N. 81 01 W.	1,208	Town.
			N. 28 48 E.	S. 28 48 W.	1,022	Bur.
			S. 58 47 W.	N. 58 47 E.	290	Cable.
3	38 19 32.82	76 29 15.02	S. 34 21 W.	N. 34 21 E.	518	Cable.
			S. 67 53 E.	N. 67 53 W.	1,240	Town.
			N. 35 55 E.	S. 35 55 W.	763	Bur.
	Thence along county boundary as delineated on Chart No. 20 to corner No. 4.					
4	38 19 31.80	76 28 19.14	N. 21 38 E.	S. 21 38 W.	775	New.
			N. 57 48 W.	S. 57 48 E.	1,225	Bur.
			S. 37 50 W.	N. 37 50 E.	547	Town.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

TOWN CREEK.

(*Lower Patuxent River—Chart No. 20.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 18 48.66	76 28 30.82	N. 79 12 E.	S. 79 12 W.	1,890	Sand.
			N. 50 32 E.	S. 50 32 W.	1,845	Methodist Episcopal Church.
			N. 27 14 W.	S. 27 14 E.	921	Crane.
2	38 18 54.47	76 28 38.58	N. 85 36 E.	S. 85 37 W.	2,069	Sand.
			N. 59 04 E.	S. 59 05 W.	1,901	Methodist Episcopal Church.
			N. 19 03 W.	S. 19 03 E.	658	Crane.
3	38 19 12.97	76 28 30.02	N. 75 52 E.	S. 75 52 W.	1,447	Methodist Episcopal Church.
			N. 12 59 W.	S. 12 59 E.	208	Town.
			S. 89 50 W.	N. 89 49 E.	442	Crane.
4	38 19 10.86	76 28 22.58	N. 70 36 E.	S. 70 37 W.	1,278	Methodist Episcopal Church.
			N. 41 45 W.	S. 41 45 E.	367	Town.
			N. 83 47 W.	S. 83 47 E.	644	Crane.

GOODWIN.

(*Lower Patuxent River—Chart No. 20.*)

1	38 18 28.75	76 28 06.02	S. 8 19 E.	N. 8 19 W.	417	Ben.
			N. 49 26 E.	S. 49 26 W.	1,577	Sand.
			N. 22 00 W.	S. 22 00 E.	1,827	Town.
2	38 18 34.80	76 28 10.62	S. 16 30 E.	N. 16 30 W.	643	Ben.
			N. 58 06 E.	S. 58 07 W.	1,555	Sand.
			N. 20 40 W.	S. 20 40 E.	1,592	Town.
3	38 18 37.12	76 28 05.38	S. 3 34 E.	N. 3 34 W.	696	Ben.
			N. 57 49 E.	S. 57 49 W.	1,395	Sand.
			N. 26 25 W.	S. 26 25 E.	1,577	Town.
4	38 18 30.80	76 28 01.60	S. 6 46 W.	N. 6 46 E.	484	Ben.
			S. 48 29 E.	N. 48 29 W.	1,442	Sand.
			N. 26 16 W.	S. 26 16 E.	1,812	Town.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

LA GRANDE.

(*Lower Patuxent River—Chart No. 20.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 17 35.18	76 27 17.84	S. 79 05 E.	N. 79 05 W.	723	Craddock.
			N. 1 40 W.	S. 1 40 E.	2,834	Sand.
			N. 41 11 W.	S. 41 12 E.	1,853	Ben.
2	38 18 13.71	76 27 48.34	S. 46 38 E.	N. 46 38 W.	2,092	Craddock.
			N. 25 24 E.	S. 25 25 W.	1,696	Sand.
			N. 76 58 W.	S. 76 58 E.	420	Ben.
3	38 18 20.36	76 27 39.18	S. 37 34 E.	N. 37 34 W.	2,094	Craddock.
			N. 20 19 E.	S. 20 20 W.	1,395	Sand.
			S. 78 47 W.	N. 78 46 E.	665	Ben.
4	38 18 00.96	76 27 14.07	N. 5 19 W.	S. 5 19 E.	1,975	Sand.
			N. 68 19 W.	S. 68 20 E.	1,421	Ben.
			S. 31 13 E.	N. 31 13 W.	1,177	Craddock.
5	38 17 35.26	76 27 07.14	S. 72 09 E.	N. 72 09 W.	448	Craddock.
			N. 7 23 W.	S. 7 23 E.	2,852	Sand.
			N. 47 14 W.	S. 47 14 E.	2,048	Ben.

MILLSTONE.

(*Lower Patuxent River—Chart No. 20.*)

1	38 17 32.82	76 26 07.63	N. 22 47 E.	S. 22 47 W.	3,538	Drum Point Light.
			N. 33 47 W.	S. 33 48 E.	3,503	Sand.
			S. 87 10 W.	N. 87 09 E.	1,157	Craddock.
2	38 17 40.10	76 26 47.16	N. 18 36 W.	S. 18 37 E.	2,813	Sand.
			N. 58 53 W.	S. 58 54 E.	2,377	Ben.
			S. 19 08 W.	N. 19 08 E.	322	Craddock.
3	38 18 14.62	76 26 27.79	N. 45 43 E.	S. 45 44 W.	2,654	Drum Point Light.
			N. 43 14 W.	S. 43 15 E.	2,061	Sand.
			S. 22 55 W.	N. 22 55 E.	1,592	Craddock.
4	38 17 52.60	76 25 45.94	N. 17 00 E.	S. 17 00 W.	2,714	Drum Point Light.
			N. 48 21 W.	S. 48 22 E.	3,377	Sand.
			S. 67 19 W.	N. 67 18 E.	1,878	Craddock.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

DEEP POINT MUD.

(*Lower Patuxent River—Chart No. 20.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 17 52.60	76 25 45.94	N. 17 00 E.	S. 17 00 W.	2,714	Drum Point Light.
			N. 48 21 W.	S. 48 22 E.	3,377	Sand.
			S. 67 19 W.	N. 67 18 E.	1,878	Craddock.
2	38 18 14.62	76 26 27.79	N. 45 43 E.	S. 45 44 W.	2,654	Drum Point Light.
			N. 43 14 W.	S. 43 15 E.	2,061	Sand.
			S. 22 55 W.	N. 22 55 E.	1,592	Craddock.
3	38 18 31.18	76 25 30.58	S. 58 20 E.	N. 58 20 W.	954	Carroll 2.
			N. 16 35 E.	S. 16 35 W.	1,351	Drum Point Light.
			N. 72 10 W.	S. 72 11 E.	3,080	Sand.
4	38 18 11.80	76 25 24.99	N. 6 55 E.	S. 6 56 W.	1,965	Drum Point Light.
			N. 62 39 W.	S. 62 40 E.	3,470	Sand.
			S. 59 04 W.	N. 59 03 E.	2,662	Craddock.

CARROLL MUDS (ST. MARYS COUNTY).

(*Lower Patuxent River—Chart No. 20.*)

1	38 18 16.38	76 24 44.61	N. 61 07 E.	S. 61 07 W.	1,362	Hog 2.
			N. 24 59 W.	S. 24 59 E.	1,978	Drum Point Light.
			S. 89 49 W.	N. 89 49 E.	410	Carroll 2.
2	38 18 17.00	76 25 04.64	S. 79 40 E.	N. 79 40 W.	124	Carroll 2.
			N. 69 46 E.	S. 69 47 W.	1,842	Hog 2.
			N. 9 43 W.	S. 9 43 E.	1,799	Drum Point Light.
3	38 18 45.42	76 25 04.36	S. 6 40 E.	N. 6 40 W.	988	Carroll 2.
			S. 79 23 E.	N. 79 23 W.	1,746	Hog 2.
			N. 20 54 W.	S. 20 55 E.	874	Drum Point Light.
	Thence along county boundary as delineated on Chart No. 20 to corner No. 4.					
4	38 19 03.80	76 24 17.62	N. 82 51 W.	S. 82 52 E.	1,565	Drum Point Light.
			S. 35 10 W.	N. 35 09 E.	1,958	Carroll 2.
			S. 26 46 E.	N. 26 46 W.	1,054	Hog 2.
5	38 18 48.16	76 24 02.46	N. 69 44 W.	S. 69 44 E.	2,084	Drum Point Light.
			S. 54 59 W.	N. 54 58 E.	1,867	Carroll 2.
			S. 9 52 E.	N. 9 52 W.	420	Hog 2.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

HOG ISLAND.

(*Entrance Patuxent River—Chart No. 20.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 18 20.00	76 23 08.90	S. 66 17 E.	N. 66 16 W.	1,865	Cedar Point Light.
			N. 1 16 W.	S. 1 16 E.	6,747	Pat.
			N. 68 20 W.	S. 68 21 E.	1,453	Hog 2.
2	38 18 36.00	76 23 57.04	N. 61 40 W.	S. 61 41 E.	2,385	Drum Point Light.
			S. 86 47 W.	N. 86 47 E.	72	Hog 2.
			N. 66 39 E.	S. 66 40 W.	3,252	Cedar Point Light.
3	38 19 17.14	76 23 47.02	S. 83 51 W.	N. 83 50 E.	2,380	Drum Point Light.
			S. 13 40 W.	N. 13 40 E.	1,432	Hog 2.
			S. 45 24 E.	N. 45 23 W.	3,820	Cedar Point Light.
4	38 18 46.92	76 22 31.22	N. 80 06 W.	S. 80 08 E.	4,445	Drum Point Light.
			S. 81 00 W.	N. 80 59 E.	2,381	Hog 2.
			S. 23 03 E.	N. 23 03 W.	1,801	Cedar Point Light.

CHINESE MUDS (ST. MARYS COUNTY).

(*Entrance Patuxent River—Chart No. 20.*)

1	38 18 35.08	76 22 01.52	N. 77 19 W.	S. 77 21 E.	5,297	Drum Point Light.
			N. 89 31 W.	S. 89 32 E.	3,142	Hog 2.
			S. 3 49 W.	N. 3 49 E.	1,261	Cedar Point Light.
2	38 18 46.92	76 22 31.22	N. 80 06 W.	S. 80 08 E.	4,445	Drum Point Light.
			S. 81 00 W.	N. 80 59 E.	2,381	Hog 2.
			S. 23 03 E.	N. 23 03 W.	1,801	Cedar Point Light.
3	38 19 17.14	76 23 47.02	S. 83 51 W.	N. 83 50 E.	2,380	Drum Point Light.
			S. 13 40 W.	N. 13 40 E.	1,432	Hog 2.
			S. 45 24 E.	N. 45 23 W.	3,820	Cedar Point Light.
	Thence along county boundary as delineated in Chart No. 20 to corner No. 4.					
4	38 19 37.58	76 21 34.27	N. 32 48 W.	S. 32 49 E.	4,915	Pat.
			S. 80 55 W.	N. 80 52 E.	5,968	Drum Point Light.
			S. 13 30 W.	N. 13 30 E.	3,461	Cedar Point Light.
5	38 19 15.82	76 21 21.84	S. 88 03 W.	N. 88 01 E.	6,226	Drum Point Light.
			S. 72 12 W.	N. 72 11 E.	4,405	Hog 2.
			S. 23 23 W.	N. 23 23 E.	2,867	Cedar Point Light.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

CEDAR POINT HOLLOW.

(*Chesapeake Bay—Charts Nos. 20 and 21.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 13 46.44	76 21 49.06	N. 40 00 W.	S. 40 01 E.	5,298	Desert.
			N. 72 51 W.	S. 72 52 E.	2,878	Ford.
			S. 16 18 W.	N. 16 18 E.	3,217	Reed.
2	38 13 51.97	76 23 22.26	N. 77 05 E.	S. 77 10 W.	13,697	Hooper Island Light.
			N. 13 58 E.	S. 13 59 W.	8,541	Cedar Point Light.
			N. 13 28 W.	S. 13 29 E.	3,981	Desert.
3	38 15 05.58	76 23 47.04	N. 87 37 E.	S. 87 43 W.	14,021	Hooper Island Light.
			N. 25 03 E.	S. 25 04 W.	6,410	Cedar Point Light.
			N. 10 56 W.	S. 10 56 E.	1,415	Desert.
4	38 15 08.60	76 23 00.00	N. 11 12 W.	S. 11 12 E.	3,714	Cain.
			N. 49 43 W.	S. 49 43 E.	1,991	Desert.
			S. 24 13 E.	N. 24 13 W.	2,107	Ford.
5	38 16 40.66	76 23 00.00	N. 29 29 E.	S. 29 30 W.	2,987	Cedar Point Light.
			N. 53 13 W.	S. 53 13 E.	900	Cain.
			S. 39 54 W.	N. 39 54 E.	2,368	Desert.
6	38 16 40.70	76 22 37.82	N. 18 43 E.	S. 18 44 W.	2,744	Cedar Point Light.
			N. 67 41 W.	S. 67 42 E.	1,416	Cain.
			S. 49 15 W.	N. 49 14 E.	2,784	Desert.
7	38 17 27.33	76 22 35.42	N. 38 31 E.	S. 38 32 W.	1,311	Cedar Point Light.
			S. 53 02 W.	N. 53 01 E.	1,720	Cain.
			S. 32 39 W.	N. 32 39 E.	4,027	Desert.
8	38 17 52.90	76 22 02.70	N. 18 11 W.	S. 18 11 E.	168	Cedar Point Light.
			S. 49 48 W.	N. 49 47 E.	2,939	Cain.
			S. 35 35 W.	N. 35 34 E.	5,228	Desert.
9	38 15 41.30	76 20 48.18	N. 23 50 W.	S. 23 51 E.	5,031	Cedar Point Light.
			N. 58 57 W.	S. 58 59 E.	4,930	Cain.
			N. 87 54 W.	S. 87 55 E.	5,027	Desert.
10	38 14 33.94	76 20 51.08	N. 63 35 W.	S. 63 37 E.	5,524	Desert.
			S. 80 04 W.	N. 80 02 E.	4,359	Ford.
			S. 27 33 W.	N. 27 32 E.	5,302	Reed.

ROCKY BEACH.

(*Chesapeake Bay—Chart No. 21.*)

1	38 11 37.42	76 21 40.16	S. 25 26 E.	N. 25 26 W.	2,415	Point Agin.
			N. 54 28 E.	S. 54 32 W.	13,075	Hooper Island Light.
			N. 42 06 W.	S. 42 06 E.	1,701	Reed.
2	38 12 00.00	76 22 09.62	S. 31 46 E.	N. 31 45 W.	3,459	Point Agin.
			N. 59 06 W.	S. 59 10 E.	13,309	Hooper Island Light.
			N. 35 26 W.	S. 35 26 E.	615	Reed.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

ROCKY BEACH—Continued.

(*Chesapeake Bay—Chart No. 21.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
3	38 12 32.60	76 22 36.22	S. 30 26 E.	N. 30 25 W.	694	Reed.
			N. 64 43 E.	S. 64 47 W.	13,411	Hooper Island Light.
			N. 24 09 W.	S. 24 10 E.	3,658	Ford.
4	38 13 00.60	76 23 02.88	S. 34 31 E.	N. 34 31 W.	1,872	Reed.
			N. 69 33 E.	S. 69 38 W.	13,698	Hooper Island Light.
			N. 18 13 W.	S. 18 14 E.	2,521	Ford.
5	38 13 51.97	76 23 22.26	N. 77 05 E.	S. 77 10 W.	13,697	Hooper Island Light.
			N. 13 58 E.	S. 13 59 W.	8,541	Cedar Point Light.
			N. 13 28 W.	S. 13 29 E.	3,981	Desert.
6	38 13 46.44	76 21 49.06	N. 40 00 W.	S. 40 01 E.	5,298	Desert.
			N. 72 51 W.	S. 72 52 E.	2,878	Ford.
			S. 16 18 W.	N. 16 18 E.	3,217	Reed.
7	38 11 54.84	76 20 41.78	N. 44 33 W.	S. 44 35 E.	6,473	Ford.
			N. 75 56 W.	S. 75 57 E.	2,777	Reed.
			S. 10 35 W.	N. 10 35 E.	2,815	Point Agin.
8	38 11 49.94	76 20 57.82	N. 40 44 W.	S. 40 46 E.	6,311	Ford.
			N. 69 40 W.	S. 69 41 E.	2,418	Reed.
			S. 1 59 W.	N. 1 59 E.	2,604	Point Agin.

TENACRES.

(*Chesapeake Bay—Chart No. 21.*)

1	38 10 22.02	76 20 34.23	N. 37 16 W.	S. 37 17 E.	4,781	Reed.
			N. 63 14 W.	S. 63 15 E.	805	Point Agin.
			S. 42 43 E.	N. 42 41 W.	7,388	Point No Point Light.
2	38 11 37.42	76 21 40.16	S. 25 26 E.	N. 25 26 W.	2,415	Point Agin.
			N. 54 28 E.	S. 54 32 W.	13,075	Hooper Island Light.
			N. 42 06 W.	S. 42 06 E.	1,701	Reed.
3	38 11 49.94	76 20 57.82	N. 40 44 W.	S. 40 46 E.	6,311	Ford.
			N. 69 40 W.	S. 69 41 E.	2,418	Reed.
			S. 1 59 W.	N. 1 59 E.	2,604	Point Agin.
4	38 10 40.33	76 20 00.73	N. 49 50 W.	S. 49 52 E.	4,942	Reed.
			S. 80 59 W.	N. 80 59 E.	1,631	Point Agin.
			S. 34 16 E.	N. 34 15 W.	7,316	Point No Point Light.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

McKAY.

(*Chesapeake Bay—Chart No. 21.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 09 29.82	76 19 38.52	N. 46 02 W.	S. 46 03 E.	3,058	Point Agin.
			S. 11 53 E.	N. 11 53 W.	2,022	Point No Point.
			S. 43 53 E.	N. 43 52 W.	5,090	Point No Point Light.
2	38 09 40.42	76 19 47.96	N. 47 51 W.	S. 47 51 E.	2,630	Point Agin.
			S. 15 58 E.	N. 15 57 W.	2,429	Point No Point.
			S. 43 11 E.	N. 43 10 W.	5,523	Point No Point Light.
3	38 09 52.20	76 19 33.80	N. 59 33 W.	S. 59 34 E.	2,699	Point Agin.
			S. 6 04 E.	N. 6 04 W.	2,748	Point No Point.
			S. 37 34 E.	N. 37 33 W.	5,581	Point No Point Light.
4	38 10 15.26	76 20 04.16	N. 68 46 W.	S. 68 47 E.	1,629	Point Agin.
			S. 17 23 E.	N. 17 23 W.	3,679	Point No Point.
			S. 39 00 E.	N. 38 59 W.	6,692	Point No Point Light.
5	38 10 07.20	76 20 21.06	N. 51 07 W.	S. 51 07 E.	1,372	Point Agin.
			S. 25 34 E.	N. 25 33 W.	3,590	Point No Point.
			S. 43 24 E.	N. 43 22 W.	6,784	Point No Point Light.
6	38 10 22.02	76 20 34.23	N. 37 16 W.	S. 37 17 E.	4,781	Reed.
			N. 63 14 W.	S. 63 15 E.	805	Point Agin.
			S. 42 43 E.	N. 42 41 W.	7,388	Point No Point Light.
7	38 10 40.33	76 20 00.73	N. 49 50 W.	S. 49 52 E.	4,942	Reed.
			S. 80 59 W.	N. 80 59 E.	1,631	Point Agin.
			S. 34 16 E.	N. 34 15 W.	7,316	Point No Point Light.
8	38 10 54.92	76 19 34.98	S. 71 59 W.	N. 71 58 E.	2,414	Point Agin.
			S. 3 48 E.	N. 3 48 W.	4,858	Point No Point.
			S. 27 43 E.	N. 27 41 W.	7,385	Point No Point Light.
9	38 10 00.00	76 18 31.62	N. 74 29 W.	S. 74 30 E.	4,133	Point Agin.
			S. 24 30 W.	N. 24 29 E.	3,202	Point No Point.
			S. 20 26 E.	N. 20 26 W.	5,001	Point No Point Light.

FISH HAWK.

(*Chesapeake Bay—Charts Nos. 21 and 22.*)

1	38 09 00.00	76 17 52.67	N. 58 03 W.	S. 58 05 E.	5,914	Point Agin.
			S. 67 57 W.	N. 67 56 E.	2,592	Point No Point.
			S. 14 54 E.	N. 14 54 W.	2,757	Point No Point Light.
2	38 09 00.00	76 19 12.72	N. 42 43 W.	S. 42 44 E.	4,257	Point Agin.
			S. 15 33 W.	N. 15 33 E.	1,009	Point No Point.
			S. 46 51 E.	N. 46 50 W.	3,894	Point No Point Light.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

FISH HAWK—Continued.

(*Chesapeake Bay—Charts Nos. 21 and 22.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
3	38 09 29.82	76 19 38.52	N. 46 02 W.	S. 46 03 E.	3,058	Point Agin.
			S. 11 53 E.	N. 11 53 W.	2,022	Point No Point.
			S. 43 53 E.	N. 43 52 W.	5,090	Point No Point Light.
4	38 10 00.00	76 18 31.62	N. 74 29 W.	S. 74 30 E.	4,133	Point Agin.
			S. 24 30 W.	N. 24 29 E.	3,292	Point No Point.
			S. 20 26 E.	N. 20 26 W.	5,001	Point No Point Light.

ST. JEROME.

(*Chesapeake Bay—Chart No. 22.*)

1	38 07 12.60	76 19 54.22	N. 85 57 W.	S. 85 57 E.	501	St. Jerome.
			S. 1 38 E.	N. 1 38 W.	2,559	Point Look-in.
			N. 76 22 E.	S. 76 23 W.	4,061	Point No Point Light.
2	38 07 13.74	76 19 57.38	S. 89 35 W.	N. 89 35 E.	416	St. Jerome.
			S. 3 28 E.	N. 3 28 W.	2,593	Point Look-in.
			N. 77 09 E.	S. 77 11 W.	4,125	Point No Point Light.
3	38 07 32.58	76 19 44.54	S. 49 52 W.	N. 49 52 E.	991	St. Jerome.
			S. 3 13 W.	N. 3 17 E.	3,228	Point Look-in.
			N. 85 36 E.	S. 85 38 W.	3,700	Point No Point Light.
4	38 07 29.47	76 19 36.14	S. 61 28 W.	N. 61 27 E.	1,119	St. Jerome.
			S. 7 28 W.	N. 7 28 E.	3,145	Point Look-in.
			N. 83 36 E.	S. 83 37 W.	3,487	Point No Point Light.

SHAVING PILE.

(*Chesapeake Bay—Chart No. 22.*)

1	38 06 42.78	76 18 04.96	N. 27 50 E.	S. 27 50 W.	2,220	Point No Point Light.
			N. 73 01 W.	S. 73 02 E.	3,565	St. Jerome.
			S. 61 28 W.	N. 61 27 E.	3,232	Point Look-in.
2	38 07 22.24	76 18 14.40	N. 63 51 E.	S. 63 52 W.	1,435	Point No Point Light.
			S. 84 46 W.	N. 84 45 E.	3,173	St. Jerome.
			S. 41 59 W.	N. 41 58 E.	3,867	Point Look-in.
3	38 07 20.54	76 17 48.04	N. 40 21 E.	S. 40 21 W.	901	Point No Point Light.
			S. 86 34 W.	N. 86 32 E.	3,867	St. Jerome.
			S. 49 26 W.	N. 49 24 E.	4,331	Point Look-in.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

BUTLER.

(*Chesapeake Bay—Chart No. 22.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 06 07. 50	76 19 49. 96	S. 6 34 W.	N. 6 34 E.	357	Point Look-in.
			N. 50 34 E.	S. 50 35 W.	4, 964	Point No Point Light.
			N. 15 22 W.	S. 15 22 E.	2, 313	St. Jerome.
2	38 06 20. 72	76 19 54. 93	S. 6 32 E.	N. 6 32 W.	805	Point Look-in.
			N. 55 41 E.	S. 55 42 W.	4, 813	Point No Point Light.
			N. 15 04 W.	S. 15 04 E.	1, 848	St. Jerome.
3	38 06 33. 18	76 20 07. 42	S. 19 11 E.	N. 19 11 W.	1, 292	Point Look-in.
			N. 61 59 E.	S. 62 00 W.	4, 869	Point No Point Light.
			N. 6 02 W.	S. 6 02 E.	1, 372	St. Jerome.
4	38 06 51. 62	76 19 47. 80	S. 3 03 W.	N. 3 03 E.	1, 844	Point Look-in.
			N. 66 12 E.	S. 66 13 W.	4, 126	Point No Point Light.
			N. 42 04 W.	S. 42 04 E.	1, 001	St. Jerome.
5	38 06 52. 60	76 19 04. 02	N. 57 59 E.	S. 58 00 W.	3, 077	Point No Point Light.
			N. 68 52 W.	S. 68 52 E.	1, 968	St. Jerome.
			S. 34 00 W.	N. 34 00 E.	2, 262	Point Look-in.
6	38 06 07. 66	76 18 43. 84	N. 33 22 E.	S. 33 21 W.	3, 767	Point No Point Light.
			N. 46 51 W.	S. 46 52 E.	3, 253	St. Jerome.
			S. 78 44 W.	N. 78 43 E.	1, 838	Point Look-in.

POINT LOOK-IN.

(*Chesapeake Bay—Chart No. 22.*)

1	38 04 00. 80	76 19 30. 60	S. 12 42 E.	N. 12 42 W.	2, 569	Potomac.
			N. 24 04 E.	S. 24 06 W.	8, 132	Point No Point Light.
			N. 8 05 W.	S. 8 05 E.	3, 958	Point Look-in.
2	38 04 39. 18	76 19 31. 62	S. 8 51 E.	N. 8 51 W.	3, 847	Potomac.
			N. 28 37 E.	S. 28 38 W.	6, 984	Point No Point Light.
			N. 11 23 W.	S. 11 23 E.	2, 683	Point Look-in.
3	38 04 39. 73	76 19 00. 00	N. 22 16 E.	S. 22 17 W.	6, 604	Point No Point Light.
			N. 27 46 W.	S. 27 47 E.	2, 944	Point Look-in.
			S. 3 46 W.	N. 3 46 E.	3, 837	Potomac.
4	38 04 53. 98	76 19 00. 00	N. 23 58 E.	S. 23 58 W.	6, 162	Point No Point Light.
			N. 32 51 W.	S. 32 52 E.	2, 528	Point Look-in.
			S. 3 21 W.	N. 3 20 E.	4, 308	Potomac.
5	38 06 07. 50	76 19 49. 96	S. 6 34 W.	N. 6 34 E.	357	Point Look-in.
			N. 50 34 E.	S. 50 35 W.	4, 964	Point No Point Light.
			N. 15 22 W.	S. 15 22 E.	2, 313	St. Jerome.
6	38 06 07. 66	76 18 43. 84	N. 33 22 E.	S. 33 21 W.	3, 767	Point No Point Light.
			N. 46 51 W.	S. 46 52 E.	3, 253	St. Jerome.
			S. 78 44 W.	N. 78 43 E.	1, 838	Point Look-in.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

POINT LOOK-IN—Continued.

(*Chesapeake Bay—Chart No. 22.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
7	38 05 26.12	76 18 08.64	N. 14 00 E.	S. 14 01 W.	4,687	Point No Point Light.
			N. 69 11 W.	S. 69 12 E.	2,932	Point Look-in.
			S. 16 45 W.	N. 16 44 E.	5,623	Potomac.
8	38 04 10.30	76 17 41.22	N. 3 15 E.	S. 3 15 W.	7,116	Point No Point Light.
			N. 43 58 W.	S. 43 59 E.	5,000	Point Look-in.
			S. 39 45 W.	N. 39 44 E.	3,678	Potomac.

POINT LOOKOUT.

(*Chesapeake Bay—Charts Nos. 22 and 23.*)

1	38 02 25.55	76 19 02.00	N. 15 42 W.	S. 15 42 E.	732	Potomac.
			N. 10 30 W.	S. 10 31 E.	7,251	Point Look-in.
			S. 67 11 W.	N. 67 11 E.	528	Point Lookout Light.
2	38 02 50.62	76 19 01.74	N. 11 56 W.	S. 11 57 E.	6,424	Point Look-in.
			S. 55 20 W.	N. 55 20 E.	249	Potomac.
			S. 25 10 W.	N. 25 10 E.	1,160	Point Lookout Light.
3	38 02 59.01	76 19 04.18	N. 11 53 W.	S. 11 54 E.	6,132	Point Look-in.
			S. 18 13 W.	N. 18 13 E.	447	Potomac.
			S. 17 49 W.	N. 17 49 E.	1,400	Point Lookout Light.
4	38 03 06.80	76 19 01.27	N. 13 09 W.	S. 13 10 E.	5,893	Point Look-in.
			S. 17 33 W.	N. 17 33 E.	721	Potomac.
			S. 17 36 W.	N. 17 35 E.	1,674	Point Lookout Light.
5	38 04 00.80	76 19 30.60	S. 12 42 E.	N. 12 42 W.	2,569	Potomac.
			N. 24 04 E.	S. 24 06 W.	8,132	Point No Point Light.
			N. 8 05 W.	S. 8 05 E.	3,958	Point Look-in.
6	38 04 10.30	76 17 41.22	N. 3 15 E.	S. 3 15 W.	7,116	Point No Point Light.
			N. 43 58 W.	S. 43 59 E.	5,000	Point Look-in.
			S. 39 45 W.	N. 39 44 E.	3,678	Potomac.
7	38 02 50.40	76 17 57.36	N. 25 51 W.	S. 25 52 E.	6,990	Point Look-in.
			S. 86 00 W.	N. 86 00 E.	1,926	Potomac.
			S. 64 45 W.	N. 64 45 E.	2,444	Point Lookout Light.

OLD HARE.

(*Smith Creek—Chart No. 24.*)

1	38 05 50.98	76 24 07.54	S. 64 10 E.	N. 64 10 W.	1,019	Sig.
			N. 14 24 W.	S. 14 24 E.	1,389	Dago.
			N. 43 35 W.	S. 43 35 E.	802	Red Beacon.
2	38 06 10.48	76 24 58.62	S. 84 34 E.	N. 84 34 W.	813	Red Beacon.
			N. 55 46 E.	S. 55 46 W.	1,228	Dago.
			N. 64 24 W.	S. 64 24 E.	584	Day.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

OLD HARE—Continued.

(*Chesapeake Bay—Chart No. 24.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
3	38 06 25.70	76 24 44.46	S. 36 09 E.	N. 36 09 W.	731	Red Beacon.
			N. 74 23 E.	S. 74 23 W.	663	Dago.
			N. 13 14 W.	S. 13 14 E.	542	Tab.
4	38 06 23.46	76 24 28.62	N. 40 32 E.	S. 40 32 W.	333	Dago.
			N. 42 11 W.	S. 42 11 E.	813	Tab.
			S. 1 01 E.	N. 1 01 W.	514	Red Beacon.

SMITH CREEK.

(*Smith Creek—Chart No. 24.*)

1	38 06 29.00	76 24 46.04	S. 34 04 E.	N. 34 04 W.	844	Red beacon.
			N. 84 24 E.	S. 84 24 W.	684	Dago.
			N. 11 06 W.	S. 11 06 E.	427	Tab.
2	38 06 41.37	76 24 49.11	S. 26 23 E.	N. 26 23 W.	1,249	Red beacon.
			S. 65 19 E.	N. 65 18 W.	839	Dago.
			N. 21 08 E.	S. 21 08 W.	750	Oak.
	Thence from corner No. 2 along the mean low-water line of the shore to corner No. 3, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
3	38 07 02.36	76 24 37.22	N. 29 40 W.	S. 29 40 E.	516	Stung.
			S. 80 51 W.	N. 80 51 E.	47	Oak.
			S. 24 07 W.	N. 24 07 E.	776	Tab.
4	38 07 02.56	76 24 33.00	N. 39 47 W.	S. 39 48 E.	574	Stung.
			S. 84 54 W.	N. 84 54 E.	159	Oak.
			S. 30 59 W.	N. 30 59 E.	834	Tab.
5	38 06 55.20	76 24 38.39	N. 39 48 E.	S. 39 48 W.	525	Out.
			N. 3 39 W.	S. 3 39 E.	234	Oak.
			S. 31 29 W.	N. 31 29 E.	547	Tab.
6	38 06 55.02	76 24 30.62	N. 17 29 E.	S. 17 29 W.	429	Out.
			N. 42 45 W.	S. 42 45 E.	327	Oak.
			S. 46 57 W.	N. 46 57 E.	674	Tab.
7	38 07 02.61	76 24 29.58	S. 89 53 E.	N. 89 53 W.	273	In.
			N. 33 25 E.	S. 33 25 W.	184	Out.
			S. 86 22 W.	N. 86 22 E.	251	Oak.
8	38 07 03.06	76 24 22.21	N. 34 31 W.	S. 34 32 E.	168	Out.
			S. 86 01 W.	N. 86 01 E.	447	Oak.
			S. 74 54 E.	N. 74 54 W.	79	In.

BOUNDARIES OF NATURAL OYSTER BEDS—continued.

SMITH CREEK—Continued.

(*Smith Creek—Chart No. 24.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
9	38 06 52.20	76 24 14.86	N. 69 27 E.	S. 69 27 W.	283	Pipe.
			N. 19 05 W.	S. 19 05 E.	365	In.
			N. 62 25 W.	S. 62 26 E.	724	Oak.
10	38 06 41.82	76 24 21.94	N. 45 17 E.	S. 45 17 W.	639	Pipe.
			N. 33 29 W.	S. 33 29 E.	821	Oak.
			S. 88 48 W.	N. 88 48 E.	724	Tab.

GRAVES.

(*Smith Creek—Chart No. 24.*)

1	38 07 02.36	76 24 37.22	N. 29 30 W.	S. 29 40 E.	516	Stung.
			S. 80 51 W.	N. 80 51 E.	47	Oak.
			S. 24 07 W.	N. 24 07 E.	776	Tab.
	Thence from corner No. 1 along the mean low-water line of the shore to corner No. 2, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
2	38 07 10.60	76 24 45.69	S. 32 11 E.	N. 32 11 W.	337	Oak.
			S. 77 40 E.	N. 77 40 W.	543	Out.
			N. 9 51 W.	S. 9 51 E.	173	Stung.
3	38 07 15.65	76 24 46.80	S. 24 39 E.	N. 24 39 W.	501	Oak.
			N. 55 23 E.	S. 55 23 W.	344	Jutland.
			N. 12 32 W.	S. 12 32 E.	537	Flat.
	Thence from corner No. 3 along the mean low-water line of the shore to corner No. 4, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
4	38 07 31.19	76 24 51.17	S. 12 32 E.	N. 12 32 W.	537	Stung.
			N. 80 21 E.	S. 80 21 W.	366	Flagpole.
			N. 27 44 E.	S. 27 44 W.	280	Ran 2.
5	38 07 02.56	76 24 33.00	N. 39 47 W.	S. 39 48 E.	574	Stung.
			S. 84 54 W.	N. 84 54 E.	159	Oak.
			S. 30 59 W.	N. 30 59 E.	834	Tab.

JUTLAND.

(*Smith Creek—Chart No. 24.*)

1	38 07 02.61	76 24 29.58	S. 89 53 E.	N. 89 53 W.	273	In.
			N. 33 25 E.	S. 33 25 W.	184	Out.
			S. 86 22 W.	N. 86 22 E.	251	Oak.
2	38 07 36.46	76 24 47.58	S. 28 17 W.	N. 28 17 E.	203	Flat.
			S. 66 19 E.	N. 66 19 W.	290	Flagpole.
			N. 26 17 E.	S. 26 17 W.	79	Ran 2.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

JUTLAND—Continued.

(*Smiths Creek—Chart No. 24.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
3	38 07 38.54	76 24 46.28	S. 27 44 W.	N. 27 44 E.	280	Flat.
			S. 1 01 W.	N. 1 01 E.	772	Stung.
			S. 51 05 E.	N. 51 05 W.	296	Flagpole.
	Thence from corner No. 3 along the mean low-water line of the shore to corner No. 4, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
4	38 07 31.02	76 24 39.58	N. 37 57 E.	S. 37 57 W.	86	Flagpole.
			N. 88 56 W.	S. 88 56 E.	309	Flat.
			S. 20 22 W.	N. 20 22 E.	552	Stung.
5	38 07 21.45	76 24 36.16	S. 55 23 W.	N. 55 23 E.	344	Stung.
			S. 6 30 W.	N. 6 30 E.	655	Oak.
			S. 29 51 E.	N. 29 51 W.	556	Out.
	Thence from corner No. 5 along the mean low-water line of the shore to corner No. 6, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
6	38 07 03.06	76 24 22.21	N. 34 31 W.	S. 34 32 E.	168	Out.
			S. 86 01 W.	N. 86 01 E.	447	Oak.
			S. 74 54 E.	N. 74 54 W.	79	In.

DUNBAR.

(*Smith Creek—Chart No. 24.*)

1	38 07 12.94	76 23 47.00	S. 79 19 W.	N. 79 19 E.	1,051	Out.
			S. 56 42 W.	N. 56 42 E.	439	Drum.
			S. 10 21 W.	N. 10 21 E.	414	Enough.
2	38 07 19.58	76 23 48.60	S. 67 05 W.	N. 67 04 E.	1,075	Out.
			S. 34 53 W.	N. 34 53 E.	567	Drum.
			S. 2 51 W.	N. 2 51 E.	631	Enough.
3	38 07 20.33	76 23 46.36	S. 67 05 W.	N. 67 04 E.	1,141	Out.
			S. 38 04 W.	N. 38 03 E.	622	Drum.
			S. 7 55 W.	N. 7 54 E.	662	Enough.
4	38 07 14.34	76 23 42.30	S. 78 10 W.	N. 78 10 E.	1,183	Out.
			S. 59 39 W.	N. 59 39 E.	570	Drum.
			S. 23 42 W.	N. 23 42 E.	496	Enough.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

SEDGE POINT.

(*Lower St. Marys River—Chart No. 24.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 06 17.94	76 25 22.01	N. 89 24 E.	S. 89 24 W.	96	Day.
			N. 24 26 W.	S. 24 26 E.	1,918	Between.
			N. 89 37 W.	S. 89 38 E.	4,046	Labor.
2	38 06 18.02	76 25 37.60	S. 89 49 E.	N. 89 48 W.	512	Day.
			N. 12 16 W.	S. 12 16 E.	1,785	Between.
			N. 89 36 W.	S. 89 38 E.	3,631	Labor.
3	38 06 45.00	76 25 32.23	N. 32 01 W.	S. 32 01 E.	983	Between.
			S. 76 47 W.	N. 76 45 E.	3,876	Labor.
			S. 22 01 E.	N. 22 01 W.	983	Day.

MOUTH OF CREEK.

(*Lower St. Marys River—Chart No. 24.*)

1	38 06 18.60	76 27 16.76	S. 89 37 E.	N. 89 36 W.	3,154	Day.
			N. 52 43 E.	S. 52 44 W.	2,844	Between.
			N. 89 41 W.	S. 89 42 E.	988	Labor.
2	38 06 18.68	76 27 27.58	S. 89 36 E.	N. 89 35 W.	3,441	Day.
			N. 56 00 E.	S. 56 01 W.	3,078	Between.
			N. 89 47 W.	S. 89 47 E.	701	Labor.
3	38 06 50.60	76 28 04.10	S. 14 17 E.	N. 14 17 W.	1,105	Labor.
			N. 79 38 E.	S. 79 39 W.	3,582	Between.
			N. 27 13 W.	S. 27 13 E.	1,006	Smack.
4	38 07 11.80	76 28 10.76	N. 11 41 E.	S. 11 41 W.	970	Cherry.
			N. 57 31 W.	S. 57 32 E.	336	Smack.
			S. 14 10 E.	N. 14 10 W.	1,840	Labor.
5	38 07 04.99	76 27 49.02	N. 18 00 W.	S. 18 01 E.	1,242	Cherry.
			N. 64 35 W.	S. 64 35 E.	953	Smack.
			S. 4 44 W.	N. 4 44 E.	1,564	Labor.

CHICKEN COCK.

(*Lower St. Marys River—Chart No. 24.*)

1	38 06 38.30	76 25 55.46	S. 55 14 E.	N. 55 13 W.	1,202	Day.
			N. 5 16 E.	S. 5 16 W.	1,064	Between.
			S. 78 12 W.	N. 78 11 E.	3,223	Labor.
2	38 07 18.72	76 26 19.44	S. 67 37 E.	N. 67 36 W.	796	Between.
			N. 2 28 E.	S. 2 28 W.	1,899	Fort.
			S. 51 13 W.	N. 51 12 E.	3,227	Labor.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

CHICKEN COCK—Continued.

(*Lower St. Marys RiverChart No. 24.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
3	38 07 18.32	76 25 58.36	N. 14 05 E.	S. 14 05 W.	1,970	Fort.
			S. 56 52 W.	N. 56 51 E.	3,666	Labor.
			S. 31 07 E.	N. 31 07 W.	339	Between.
4	38 07 00.00	76 25 45.78	N. 26 02 W.	S. 26 02 E.	364	Between.
			S. 67 47 W.	N. 67 46 E.	3,686	Labor.
			S. 27 14 E.	N. 27 14 W.	1,593	Day.
5	38 06 39.94	76 25 45.01	N. 10 12 W.	S. 10 12 E.	1,023	Between.
			S. 78 15 W.	N. 78 14 E.	3,507	Labor.
			S. 43 45 E.	N. 43 44 W.	1,026	Day.

CHERRY.

(*Lower St. Marys River—Chart No. 24.*)

1	38 07 06.81	76 27 39.46	N. 88 02 E.	S. 88 04 W.	2,871	Between.
			N. 29 43 W.	S. 29 43 E.	1,287	Cherry.
			N. 72 38 W.	S. 72 39 E.	1,170	Smack.
2	38 07 23.00	76 28 15.13	N. 28 41 E.	S. 28 41 W.	651	Cherry.
			N. 77 16 W.	S. 77 17 E.	1,413	Adams.
			S. 40 07 W.	N. 40 07 E.	258	Smack.
3	38 07 39.96	76 28 03.41	N. 45 49 W.	S. 45 49 E.	1,344	Goose.
			S. 31 53 W.	N. 31 53 E.	906	Smack.
			S. 73 48 E.	N. 73 47 W.	3,652	Between.
	Thence from corner No. 3 along the mean low-water line of the shore to corner No. 4, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
4	38 07 41.20	76 27 49.04	S. 46 43 W.	N. 46 43 E.	1,183	Smack.
			S. 71 14 E.	N. 71 13 W.	3,299	Between.
			N. 65 13 E.	S. 65 14 W.	2,719	Fort.
5	38 07 57.01	76 27 33.00	N. 73 25 E.	S. 73 26 W.	2,129	Fort.
			N. 2 43 W.	S. 2 43 E.	807	Pond.
			S. 43 47 W.	N. 43 47 E.	1,862	Smack.
6	38 07 29.02	76 27 19.00	N. 13 12 W.	S. 13 12 E.	1,800	Pond.
			N. 72 41 W.	S. 72 41 E.	1,239	Cherry.
			S. 76 27 W.	N. 76 26 E.	1,709	Smack.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

MIDDLEGROUND LUMP.

(*Lower St. Marys River—Chart No. 24.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 07 42.00	76 27 03.22	N. 48 16 E.	S. 48 17 W.	1,672	Fort.
			N. 32 22 W.	S. 32 23 E.	1,553	Pond.
			S. 87 33 W.	N. 87 32 E.	1,604	Cherry.
2	38 07 51.94	76 27 01.44	N. 57 04 E.	S. 57 04 W.	1,430	Fort.
			N. 41 54 W.	S. 41 54 E.	1,317	Pond.
			S. 76 15 W.	N. 76 14 E.	1,699	Cherry.
3	38 07 45.50	76 26 51.12	N. 42 56 E.	S. 42 56 W.	1,358	Fort.
			N. 43 58 W.	S. 43 59 E.	1,662	Pond.
			S. 84 28 W.	N. 84 27 E.	1,934	Cherry.

FORT.

(*Lower St. Marys River—Chart No. 24.*)

1	38 07 36.02	76 25 56.00	S. 7 12 E.	N. 7 12 W.	893	Between.
			N. 87 45 W.	S. 87 47 E.	3,397	Cherry.
			N. 22 26 W.	S. 22 26 E.	1,422	Fort.
2	38 08 00.00	76 26 52.52	S. 70 19 W.	N. 70 18 E.	2,005	Cherry.
			S. 43 39 E.	N. 43 39 W.	2,342	Between.
			N. 62 17 E.	S. 62 17 W.	1,087	Fort.
3	38 08 00.00	76 26 13.16	N. 9 36 W.	S. 9 36 E.	513	Fort.
			N. 71 54 W.	S. 71 53 E.	2,278	Pond.
			S. 18 36 E.	N. 18 36 W.	1,785	Between.
	Thence from corner No. 3 along the mean low-water line of the shore to corner No. 4, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
4	38 07 37.98	76 25 54.82	N. 24 42 W.	S. 24 42 E.	1,373	Fort.
			N. 88 53 W.	S. 88 54 E.	3,426	Cherry.
			S. 4 50 E.	N. 4 50 W.	956	Between.

EDMUND.

(*Lower St. Marys River—Chart No. 24.*)

1	38 08 01.44	76 27 19.18	N. 74 41 E.	S. 74 41 W.	1,734	Fort.
			N. 31 39 W.	S. 31 39 E.	774	Pond.
			S. 58 25 W.	N. 58 25 E.	1,382	Cherry.
2	38 08 04.62	76 27 32.20	N. 80 10 E.	S. 80 11 W.	2,049	Fort.
			N. 6 10 W.	S. 6 10 E.	555	Pond.
			S. 45 00 W.	N. 44 59 E.	1,173	Cherry.
3	38 08 20.99	76 27 34.44	S. 48 42 E.	N. 48 41 W.	3,641	Between.
			S. 84 28 E.	N. 84 27 W.	2,089	Fort.
			N. 52 55 E.	S. 52 55 W.	2,252	Rod.
4	38 08 27.68	76 27 17.64	S. 63 15 W.	N. 63 14 E.	501	Pond.
			S. 75 17 E.	N. 75 17 W.	1,687	Fort.
			N. 50 00 E.	S. 50 00 W.	1,761	Rod.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

COAD.

(Lower St. Marys River—Chart No. 24.)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 08 20.99	76 27 34.44	S. 48 42 E.	N. 48 41 W.	3,641	Between.
			S. 84 28 E.	N. 84 27 W.	2,089	Fort.
			N. 52 55 E.	S. 52 55 W.	2,252	Rod.
	Thence from corner No. 1 along the mean low-water line of the shore to corner No. 2, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
2	38 08 42.80	76 27 53.82	S. 70 08 E.	N. 70 07 W.	2,759	Fort.
			N. 74 54 E.	S. 74 55 W.	2,395	Rod.
			N. 21 55 E.	S. 21 55 W.	1,201	Thompson.
3	38 08 49.42	76 27 36.62	S. 3 28 E.	N. 3 28 W.	960	Pond.
			N. 77 49 E.	S. 77 50 W.	1,897	Rod.
			N. 0 38 W.	S. 0 38 E.	891	Thompson.
4	38 08 27.68	76 27 17.64	S. 63 15 W.	N. 63 14 E.	501	Pond.
			S. 75 17 E.	N. 75 17 W.	1,687	Fort.
			N. 50 00 E.	S. 50 00 W.	1,761	Rod.

LANGLEY HOLLOW.

(Lower St. Marys River—Chart No. 24.)

1	38 08 08.80	76 26 19.10	N. 19 11 E.	S. 19 11 W.	221	Fort.
			N. 78 25 W.	S. 78 26 E.	2,048	Pond.
			S. 20 04 E.	N. 20 03 W.	2,120	Between.
2	38 08 09.34	76 26 26.18	N. 53 51 E.	S. 53 51 W.	324	Fort.
			N. 77 48 W.	S. 77 49 E.	1,860	Pond.
			S. 24 30 E.	N. 24 30 W.	2,209	Between.
3	38 08 41.22	76 26 27.54	N. 1 16 E.	S. 1 16 W.	676	Rod.
			S. 69 03 W.	N. 69 02 E.	1,907	Pond.
			S. 18 36 E.	N. 18 36 W.	933	Fort.
4	38 08 54.68	76 26 22.00	N. 30 52 W.	S. 30 52 E.	259	Rod.
			S. 59 31 W.	N. 59 30 E.	2,238	Pond.
			S. 6 24 E.	N. 6 24 W.	1,346	Fort.
	Thence from corner No. 4 along the mean low-water line of the shore to corner No. 5, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
5	38 08 52.88	76 26 12.58	N. 53 37 W.	S. 53 37 E.	477	Rod.
			S. 63 42 W.	N. 63 41 E.	2,432	Pond.
			S. 4 31 W.	N. 4 31 E.	1,284	Fort.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

PRIEST.

(Middle St. Marys River—Chart No. 24.)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 08 41.22	76 26 27.54	N. 1 16 E.	S. 1 16 W.	676	Rod.
			S. 69 03 W.	N. 69 02 E.	1,907	Pond.
			S. 18 36 E.	N. 18 36 W.	933	Fort.
2	38 09 01.34	76 26 45.64	S. 89 41 E.	N. 89 41 W.	497	Rod.
			N. 33 28 E.	S. 33 28 W.	1,324	Inigoes.
			N. 70 18 W.	S. 70 19 E.	1,452	Thompson.
3	38 09 15.99	76 26 24.54	S. 7 27 W.	N. 7 27 E.	501	Rod.
			N. 89 08 E.	S. 89 08 W.	560	Raley.
			N. 15 23 E.	S. 15 24 W.	633	Inigoes.
4	38 09 09.62	76 26 16.40	N. 56 56 E.	S. 56 57 W.	409	Raley.
			N. 3 27 W.	S. 3 27 E.	827	Inigoes.
			S. 44 59 W.	N. 44 59 E.	398	Rod.
	Thence from corner No. 4 along the mean low-water line of the shore to corner No. 5, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
5	38 08 54.68	76 26 22.00	N. 30 52 W.	S. 30 52 E.	259	Rod.
			S. 59 31 W.	N. 59 30 E.	2,238	Pond.
			S. 6 24 E.	N. 6 24 W.	1,346	Fort.

CARTHAGENA CREEK.

(Middle St. Marys River—Chart No. 24.)

1	38 09 01.40	76 27 46.92	S. 13 44 E.	N. 13 44 W.	1,400	Pond.
			S. 89 52 E.	N. 89 52 W.	2,128	Rod.
			N. 28 31 E.	S. 28 31 W.	554	Thompson.
2	38 09 11.20	76 27 53.06	S. 16 20 E.	N. 16 19 W.	1,764	Pond.
			S. 81 40 E.	N. 81 39 W.	2,316	Rod.
			N. 69 53 E.	S. 69 53 W.	456	Thompson.
3	38 09 15.85	76 27 36.98	S. 2 06 E.	N. 2 06 W.	1,851	Pond.
			S. 75 13 E.	N. 75 12 W.	1,928	Rod.
			N. 61 51 E.	S. 61 51 W.	1,188	Grind.
4	38 09 18.75	76 27 32.70	S. 49 22 W.	N. 49 22 E.	150	Thompson.
			S. 1 22 W.	N. 1 22 E.	1,948	Pond.
			S. 71 23 E.	N. 71 22 W.	1,847	Rod.
5	38 09 10.00	76 27 22.18	S. 78 38 E.	N. 78 38 W.	1,499	Rod.
			N. 40 46 E.	S. 40 46 W.	1,001	Grind.
			N. 63 25 W.	S. 63 25 E.	441	Thompson.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

THOMPSON CREEK.

(Middle St. Marys River—Chart No. 24.)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 09 10.00	76 27 22.18	S. 78 38 E.	N. 78 38 W.	1,499	Rod.
			N. 40 46 E.	S. 40 46 W.	1,001	Grind.
			N. 63 25 W.	S. 63 25 E.	441	Thompson.
2	38 09 18.75	76 27 32.70	S. 49 22 W.	N. 49 22 E.	150	Thompson.
			S. 1 22 W.	N. 1 22 E.	1,948	Pond.
			S. 71 23 E.	N. 71 22 W.	1,847	Rod.
3	38 09 22.60	76 27 28.50	S. 44 46 W.	N. 44 46 E.	320	Thompson.
			S. 4 21 W.	N. 4 21 E.	2,083	Pond.
			S. 66 17 E.	N. 66 17 W.	1,789	Rod.
	Thence from corner No. 3 along the mean low-water line of the shore to corner No. 4, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
4	38 09 30.77	76 27 00.40	S. 41 49 E.	N. 41 49 W.	1,335	Rod.
			N. 51 59 E.	S. 51 59 W.	94	Grind.
			N. 23 35 E.	S. 23 35 W.	1,307	Chan.
5	38 09 25.82	76 26 45.64	S. 31 01 E.	N. 31 01 W.	965	Rod.
			N. 69 03 E.	S. 69 03 W.	782	Inigoes.
			N. 54 53 W.	S. 54 53 E.	389	Grind.
6	38 09 18.86	76 26 55.87	S. 52 21 E.	N. 52 21 W.	972	Rod.
			N. 62 52 E.	S. 62 52 W.	1,126	Inigoes.
			N. 5 50 W.	S. 5 50 E.	461	Grind.

RALEYS SHORE.

(Entrance to St. Inigoes Creek—Chart No. 24.)

1	38 09 09.62	76 26 16.40	N. 56 56 E.	S. 56 57 W.	409	Raley.
			N. 3 27 W.	S. 3 27 E.	827	Inigoes.
			S. 44 59 W.	N. 44 59 E.	398	Rod.
2	38 09 15.99	76 26 24.54	S. 7 27 W.	N. 7 27 E.	501	Rod.
			N. 89 08 E.	S. 89 08 W.	560	Raley.
			N. 15 23 E.	S. 15 24 W.	633	Inigoes.
3	38 09 26.59	76 26 09.26	S. 23 39 E.	N. 23 39 W.	380	Raley.
			N. 52 44 E.	S. 52 44 W.	583	Cottage.
			N. 43 26 W.	S. 43 26 E.	348	Inigoes.
4	38 09 18.62	76 25 59.00	N. 47 12 E.	S. 47 12 W.	576	Church.
			N. 44 28 W.	S. 44 28 E.	730	Inigoes.
			S. 56 18 W.	N. 56 18 E.	144	Raley.
	Thence from corner No. 4 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					

BOUNDARIES OF NATURAL OYSTER BARS—continued.

KENNEDY.

(*St. Inigoes Creek—Chart No. 24.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 09 26.00	76 26 04.72	S. 5 33 E.	N. 5 33 W.	330	Raley.
			N. 42 36 E.	S. 42 36 W.	506	Cottage.
			N. 52 49 W.	S. 52 50 E.	451	Inigoes.
2	38 09 35.26	76 26 11.26	S. 78 00 W.	N. 78 00 E.	189	Inigoes.
			S. 17 49 E.	N. 17 49 W.	673	Raley.
			N. 83 20 E.	S. 83 21 W.	520	Cottage.
	Thence from corner No. 2 along the mean low-water line of the shore to corner No. 3, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
3	38 09 35.40	76 26 05.82	S. 82 22 W.	N. 82 22 E.	333	Inigoes.
			S. 5 25 E.	N. 5 25 W.	648	Raley.
			N. 81 30 E.	S. 81 30 W.	376	Cottage.
4	38 09 27.76	76 25 52.46	N. 71 29 E.	S. 71 29 W.	261	Church.
			N. 2 58 E.	S. 2 58 W.	314	Cottage.
			N. 72 43 W.	S. 72 43 E.	718	Inigoes.

JONES.

(*St. Inigoes Creek—Chart No. 24.*)

1	38 09 28.18	76 25 32.60	N. 0 55 W.	S. 0 55 E.	462	Grason.
			N. 59 41 W.	S. 59 41 E.	594	Cottage.
			N. 76 06 W.	S. 76 07 E.	289	Church.
2	38 09 32.96	76 25 39.88	N. 31 45 E.	S. 31 45 W.	354	Grason.
			N. 66 33 W.	S. 66 33 E.	347	Cottage.
			S. 43 09 W.	N. 43 08 E.	126	Church.
3	38 09 39.80	76 25 44.30	N. 76 55 E.	S. 76 55 W.	312	Grason.
			N. 6 38 E.	S. 6 38 W.	202	Dusky.
			S. 65 14 W.	N. 65 14 E.	221	Cottage.
4	38 09 42.40	76 25 36.74	N. 58 27 W.	S. 58 27 E.	209	Dusky.
			S. 65 51 W.	N. 65 51 E.	441	Cottage.
			S. 80 30 E.	N. 80 30 W.	104	Grason.

Thence from corner No. 4 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

ST. INIGOES NORTH.

(*St. Inigoes Creek—Chart No. 24.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	Yards.	
1	38 09 54.66	76 25 27.38	S. 37 57 E.	N. 37 57 W.	380	Smoke.
			N. 58 04 E.	S. 58 04 W.	397	Sleep.
			S. 87 54 W.	N. 87 54 E.	294	Rock.
2	38 10 03.16	76 25 29.70	S. 37 59 W.	N. 37 58 E.	377	Rock.
			S. 26 47 E.	N. 26 47 W.	656	Smoke.
			S. 79 07 E.	N. 79 06 W.	406	Sleep.
	Thence from corner No. 2 along the mean low-water line of the shore to corner No. 3, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
3	38 10 00.89	76 25 14.72	S. 70 42 W.	N. 70 42 E.	668	Rock.
			S. 11 24 W.	N. 11 24 E.	521	Smoke.
			S. 30 29 E.	N. 30 29 W.	445	Chestnut.
4	38 09 58.16	76 25 12.42	N. 33 38 W.	S. 33 38 E.	110	Sleep.
			S. 21 25 W.	N. 21 25 E.	449	Smoke.
			S. 29 31 E.	N. 29 31 W.	335	Chestnut.

ST. INIGOES SOUTH.

(*St. Inigoes Creek—Chart No. 24.*)

1	38 09 45.02	76 25 22.00	N. 75 02 E.	S. 75 02 W.	94	Smoke.
			N. 54 17 W.	S. 54 17 E.	538	Rock.
			S. 69 59 W.	N. 69 59 E.	308	Grason.
2	38 09 50.82	76 25 24.36	S. 41 53 E.	N. 41 53 W.	229	Smoke.
			N. 37 05 E.	S. 37 05 W.	425	Sleep.
			N. 72 22 W.	S. 72 22 E.	393	Rock.
3	38 09 52.96	76 25 06.86	N. 38 28 W.	S. 38 28 E.	337	Sleep.
			S. 52 04 W.	N. 52 04 E.	396	Smoke.
			S. 8 12 E.	N. 8 12 W.	117	Chestnut.
4	38 09 49.51	76 25 06.23	N. 30 29 W.	S. 30 29 E.	445	Sleep.
			N. 79 14 W.	S. 79 14 E.	873	Rock.
			S. 68 53 W.	N. 68 53 E.	352	Smoke.

Thence from corner No. 4 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

COPPAGE.

(*Middle St. Marys River—Chart No. 24.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 09 30.77	76 27 00.40	S. 41 49 E.	N. 41 49 W.	1,335	Rod.
			N. 51 59 E.	S. 51 59 W.	94	Grind.
			N. 23 35 E.	S. 23 35 W.	1,307	Chan.
	Thence from corner No. 1 along the mean low-water line of the shore to corner No. 2, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
2	38 09 48.16	76 27 18.24	S. 46 04 E.	N. 46 04 W.	762	Grind.
			N. 58 35 E.	S. 58 36 W.	1,168	Chan.
			N. 42 42 W.	S. 42 43 E.	689	Coppage.
3	38 09 52.40	76 27 11.70	S. 29 09 E.	N. 29 09 W.	769	Grind.
			N. 60 25 E.	S. 60 26 W.	945	Chan.
			N. 60 28 W.	S. 60 28 E.	737	Coppage.
4	38 09 43.26	76 26 50.73	S. 26 49 W.	N. 26 49 E.	408	Grind.
			S. 70 18 E.	N. 70 17 W.	919	Inigoes.
			N. 18 53 E.	S. 18 53 W.	818	Chan.

COOPER CREEK.

(*Middle St. Marys River—Chart No. 24.*)

1	38 09 48.16	76 27 18.24	S. 46 04 E.	N. 46 04 W.	762	Grind.
			N. 58 35 E.	S. 58 36 W.	1,168	Chan.
			N. 42 42 W.	S. 42 43 E.	689	Coppage.
	Thence from corner No. 1 along the mean low-water line of the shore to corner No. 2, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
2	38 10 06.00	76 27 35.60	S. 3 12 W.	N. 3 12 E.	95	Coppage.
			N. 89 43 E.	S. 89 44 W.	1,459	Chan.
			N. 45 07 E.	S. 45 07 W.	1,171	Bello.
3	38 10 06.98	76 27 31.40	S. 42 26 W.	N. 42 26 E.	174	Coppage.
			S. 88 54 E.	N. 88 53 W.	1,348	Chan.
			N. 42 08 E.	S. 42 09 W.	1,071	Bello.
4	38 09 58.54	76 27 25.58	N. 77 45 E.	S. 77 46 W.	1,220	Chan.
			N. 27 35 E.	S. 27 35 W.	1,216	Bello.
			N. 60 06 W.	S. 60 06 E.	314	Coppage.
5	38 09 52.40	76 27 11.70	S. 29 09 E.	N. 29 09 W.	769	Grind.
			N. 60 25 E.	S. 60 26 W.	945	Chan.
			N. 60 28 W.	S. 60 28 E.	737	Coppage.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

ROSECROFT HOLLOW.

(*Middle St. Marys River—Chart No. 24.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 09 29.88	76 26 25.10	N. 84 13 W.	S. 84 14 E.	870	Grind.
			S. 51 20 E.	N. 51 19 W.	736	Raley.
			N. 52 11 E.	S. 52 11 W.	232	Inigoes.
2	38 09 53.02	76 26 32.20	N. 27 16 W.	S. 27 16 E.	501	Chan.
			S. 44 21 W.	N. 44 21 E.	969	Grind.
			S. 32 50 E.	N. 32 50 W.	573	Kennedy.
3	38 10 05.78	76 26 45.85	S. 36 29 E.	N. 36 28 W.	1,134	Kennedy.
			N. 83 50 E.	S. 83 50 W.	136	Chan.
			N. 30 39 W.	S. 30 39 E.	970	Bello.
4	38 10 06.21	76 26 40.81	N. 37 29 W.	S. 37 29 E.	1,032	Bello.
			S. 21 30 W.	N. 21 30 E.	1,223	Grind.
			S. 30 14 E.	N. 30 14 W.	1,072	Kennedy.
	Thence from corner No. 4 along the mean low-water line of the shore to corner No. 5, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
5	38 09 50.06	76 26 21.42	N. 77 23 W.	S. 77 23 E.	2,030	Coppage.
			S. 58 25 W.	N. 58 25 E.	1,132	Grind.
			S. 3 33 E.	N. 3 33 W.	382	Kennedy.
6	38 09 39.98	76 26 25.80	S. 73 22 E.	N. 73 22 W.	146	Kennedy.
			N. 24 19 W.	S. 24 19 E.	970	Chan.
			S. 73 23 W.	N. 73 23 E.	884	Grind.
7	38 09 32.42	76 26 21.04	S. 40 36 E.	N. 40 36 W.	716	Raley.
			N. 53 02 E.	S. 53 02 W.	94	Inigoes.
			N. 3 39 E.	S. 3 39 W.	213	Kennedy.

GRAVELLY RUN.

(*Middle St. Marys River—Chart No. 24.*)

1	38 10 05.78	76 26 45.85	S. 36 29 E.	N. 36 28 W.	1,134	Kennedy.
			N. 83 50 E.	S. 83 50 W.	136	Chan.
			N. 30 39 W.	S. 30 39 E.	970	Bello.
2	38 10 28.46	76 26 34.00	N. 85 06 W.	S. 85 06 E.	812	Bello.
			S. 13 35 W.	N. 13 35 E.	772	Chan.
			S. 52 01 E.	N. 52 01 W.	233	Gravel.
3	38 10 38.22	76 26 09.08	N. 12 06 E.	S. 12 06 W.	544	Brome.
			N. 61 06 W.	S. 61 06 E.	1,256	McKay.
			S. 45 24 W.	N. 45 24 E.	674	Gravel.
4	38 10 59.19	76 26 09.28	S. 34 26 E.	N. 34 26 W.	211	Brome.
			N. 1 45 W.	S. 1 45 E.	542	Calvert Monument.
			N. 69 11 W.	S. 69 11 E.	817	Deep.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

GRAVELLY RUN—Continued.

(*Middle St. Marys River—Chart No. 24.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
5	38 10 59.62	76 26 01.46	N. 23 03 W.	S. 23 04 E.	573	Calvert Monument.
			N. 74 09 W.	S. 74 09 E.	1,009	Deep.
			S. 25 13 W.	N. 25 13 E.	209	Brome.
	Thence from corner No. 5 along the mean low-water line of the shore to corner No. 6, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
6	38 10 06.21	76 26 40.81	N. 37 29 W.	S. 37 29 E.	1,032	Bello.
			S. 21 30 W.	N. 21 30 E.	1,223	Grind.
			S. 30 14 E.	N. 30 14 W.	1,072	Kennedy.

WEST ST. MARYS.

(*Middle St. Marys River—Chart No. 24.*)

1	38 11 07.80	76 26 37.96	S. 40 22 W.	N. 40 21 E.	512	McKay.
			S. 62 15 E.	N. 62 15 W.	997	Brome.
			N. 71 22 E.	S. 71 23 W.	788	Calvert Monument.
	Thence from corner No. 1 along the mean low-water line of the shore to corner No. 2, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
2	38 11 18.76	76 26 39.42	N. 9 10 E.	S. 9 10 W.	201	Pagan.
			S. 6 00 E.	N. 6 00 W.	372	Deep.
			S. 81 27 E.	N. 81 27 W.	795	Calvert Monument.
3	38 11 18.43	76 26 34.56	N. 24 59 W.	S. 24 59 E.	231	Pagan.
			S. 14 10 W.	N. 14 10 E.	370	Deep.
			S. 29 24 W.	N. 29 24 E.	862	McKay.
4	38 11 07.98	76 26 33.60	N. 12 21 W.	S. 12 21 E.	575	Pagan.
			S. 87 00 W.	N. 87 00 E.	116	Deep.
			S. 48 28 W.	N. 48 28 E.	597	McKay.

SEMINARY.

(*Upper St. Marys River—Chart No. 24.*)

1	38 11 09.44	76 26 11.38	N. 31 30 E.	S. 31 30 W.	223	Episcopal Church cross.
			N. 11 21 E.	S. 11 21 W.	200	Calvert Monument.
			S. 85 32 W.	N. 85 32 E.	710	Deep.
2	38 11 17.82	76 26 23.50	N. 59 34 W.	S. 59 34 E.	454	Pagan.
			S. 48 43 W.	N. 48 43 E.	511	Deep.
			S. 76 35 E.	N. 76 35 W.	371	Calvert Monument.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

SEMINARY—Continued.

(*Upper St. Marys River—Chart No. 24.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
3	38 11 25.56	76 26 03.82	N. 34 40 E.	S. 34 40 W.	744	Bend.
			S. 88 02 W.	N. 88 02 E.	915	Pagan.
			S. 24 59 W.	N. 24 59 E.	383	Calvert Monument.
4	38 11 20.60	76 26 00.64	N. 23 28 E.	S. 23 29 W.	849	Bend.
			N. 82 15 W.	S. 82 14 E.	1,009	Pagan.
			S. 53 51 W.	N. 53 51 E.	305	Calvert Monument.
	Thence from corner No. 4 along the mean low-water line of the shore to corner No. 5, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
5	38 11 10.80	76 26 07.96	N. 10 04 E.	S. 10 04 W.	146	Episcopal Church cross.
			N. 18 57 W.	S. 18 57 E.	158	Calvert Monument.
			S. 82 47 W.	N. 82 46 E.	805	Deep.

PAGAN.

(*Upper St. Marys River—Chart No. 24.*)

1	38 11 27.28	76 26 40.00	N. 79 36 W.	S. 79 36 E.	1,069	West Hollow.
			S. 27 56 E.	N. 27 56 W.	101	Pagan.
			N. 68 14 E.	S. 68 15 W.	1,492	Bend.
2	38 11 33.35	76 26 41.14	S. 89 19 W.	N. 89 19 E.	1,021	West Hollow.
			S. 14 50 E.	N. 14 50 W.	303	Pagan.
			N. 76 11 E.	S. 76 11 W.	1,458	Bend.
3	38 11 34.50	76 26 34.24	S. 87 36 W.	N. 87 35 E.	1,206	West Hollow.
			S. 17 39 W.	N. 17 39 E.	349	Pagan.
			N. 75 52 E.	S. 75 52 W.	1,271	Bend.
4	38 11 28.18	76 26 32.54	N. 82 34 W.	S. 82 35 E.	1,260	West Hollow.
			S. 51 38 W.	N. 51 37 E.	193	Pagan.
			N. 66 14 E.	S. 66 14 W.	1,297	Bend.
	Thence from corner No. 4 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					

BOUNDARIES OF NATURAL OYSTER BARS—continued.

BISCOE.

(*Upper St. Marys River—Chart No. 24.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 11 28.34	76 26 57.20	S. 76 05 E.	N. 76 05 W.	521	Pagan.
			N. 14 16 E.	S. 14 16 W.	1,326	Horseshoe.
			N. 75 10 W.	S. 75 10 E.	614	West Hollow.
	Thence from corner No. 1 along the mean low-water line of the shore to corner No. 2, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
2	38 11 28.66	76 27 02.06	S. 77 55 E.	N. 77 54 W.	649	Pagan.
			N. 19 39 E.	S. 19 39 W.	1,356	Horseshoe.
			N. 72 30 W.	S. 72 30 E.	487	West Hollow.
3	38 11 33.42	76 27 02.00	S. 64 54 E.	N. 64 54 W.	699	Pagan.
			N. 22 09 E.	S. 22 09 W.	1,205	Horseshoe.
			S. 88 13 W.	N. 88 13 E.	466	West Hollow.
4	38 11 33.38	76 26 55.58	S. 57 26 E.	N. 57 26 W.	548	Pagan.
			N. 14 16 E.	S. 14 16 W.	1,152	Horseshoe.
			S. 88 51 W.	N. 88 51 E.	637	West Hollow.

HORSESHOE.

(*Upper St. Marys River—Chart No. 24.*)

1	38 11 48.18	76 26 52.00	N. 16 56 E.	S. 16 56 W.	648	Horseshoe.
			N. 54 00 W.	S. 54 00 E.	694	Brief.
			S. 55 02 W.	N. 55 02 E.	892	West Hollow.
2	38 11 49.16	76 26 56.42	N. 27 34 E.	S. 27 34 W.	662	Horseshoe.
			N. 49 49 W.	S. 49 49 E.	581	Brief.
			S. 48 25 W.	N. 48 25 E.	819	West Hollow.
3	38 12 00.60	76 26 50.46	N. 36 21 E.	S. 36 21 W.	249	Horseshoe.
			S. 88 57 W.	N. 88 57 E.	602	Brief.
			S. 39 42 W.	N. 39 42 E.	1,209	West Hollow.
	Thence from corner No. 3 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					

BOUNDARIES OF NATURAL OYSTER BARS—continued.

SHORT POINT.

(*Upper St. Marys River—Chart No. 24.*)

Corner of bar	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 11 48.24	76 27 13.76	S. 16 35 W.	N. 16 35 E.	535	West Hollow.
			N. 51 12 E.	S. 51 12 W.	984	Horseshoe.
			N. 2 29 E.	S. 2 29 W.	406	Brief.
2	38 11 49.96	76 27 18.60	S. 2 24 W.	N. 2 24 E.	572	West Hollow.
			N. 57 59 E.	S. 57 59 W.	1,058	Horseshoe.
			N. 22 49 E.	S. 22 49 W.	377	Brief.
	Thence from corner No. 2 along the mean low-water line of the shore to corner No. 3, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
3	38 12 00.92	76 27 12.34	N. 75 26 E.	S. 75 27 W.	754	Horseshoe.
			N. 49 24 W.	S. 49 24 E.	486	Tenuate.
			S. 43 08 W.	N. 43 08 E.	30	Brief.
4	38 12 03.66	76 27 08.66	N. 81 16 E.	S. 81 16 W.	639	Horseshoe.
			N. 64 27 W.	S. 64 27 E.	517	Tenuate.
			S. 46 02 W.	N. 46 02 E.	164	Brief.
5	38 12 01.82	76 27 04.25	N. 72 48 E.	S. 72 49 W.	539	Horseshoe.
			N. 63 59 W.	S. 63 59 E.	651	Tenuate.
			S. 77 34 W.	N. 77 34 E.	241	Brief.

BRYAN.

(*Upper St. Marys River—Chart No. 24.*)

1	38 12 07.80	76 27 15.94	N. 72 59 W.	S. 72 59 E.	285	Tenuate.
			S. 16 36 E.	N. 16 36 W.	265	Brief.
			S. 86 59 E.	N. 86 59 W.	827	Horseshoe.
2	38 12 09.08	76 27 24.36	S. 45 17 E.	N. 45 17 W.	421	Brief.
			S. 85 20 E.	N. 85 20 W.	1,053	Horseshoe.
			N. 50 35 W.	S. 50 35 E.	63	Tenuate.
	Thence from corner No. 2, along the mean low-water line of the shore to corner No. 3, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
3	38 12 10.28	76 27 26.21	S. 83 27 E.	N. 83 27 W.	1,106	Horseshoe.
			N. 23 30 E.	S. 23 31 W.	681	Martin.
			N. 58 55 W.	S. 58 55 E.	819	Soak.
4	38 12 14.96	76 27 25.20	N. 27 41 E.	S. 27 41 W.	527	Martin.
			N. 70 01 W.	S. 70 01 E.	775	Soak.
			S. 9 41 W.	N. 9 41 E.	160	Tenuate.
5	38 12 12.86	76 27 14.59	N. 3 58 W.	S. 3 58 E.	539	Martin.
			S. 74 15 W.	N. 74 15 E.	321	Tenuate.
			S. 5 20 E.	N. 5 20 W.	426	Brief.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

ST. GEORGE.

(*St. George River—Chart No. 24.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 07 23.00	76 28 15.13	N. 28 41 E.	S. 28 41 W.	651	Cherry.
			N. 77 16 W.	S. 77 17 E.	1,413	Adams.
			S. 40 07 W.	N. 40 07 E.	258	Smack.
2	38 07 40.98	76 28 19.34	S. 3 52 W.	N. 3 52 E.	806	Smack.
			S. 85 22 E.	N. 85 22 W.	427	Cherry.
			N. 29 21 E.	S. 29 21 W.	1,015	Price.
3	38 08 02.90	76 28 24.82	S. 3 24 E.	N. 3 24 W.	1,545	Smack.
			S. 36 24 E.	N. 36 24 W.	961	Cherry.
			N. 77 12 W.	S. 77 12 E.	661	Price.
4	38 08 12.32	76 28 00.82	S. 52 27 W.	N. 52 27 E.	2,218	Adams.
			S. 16 24 W.	N. 16 24 E.	1,939	Smack.
			S. 1 33 E.	N. 1 33 W.	172	Price.
	Thence from corner No. 4 along the mean low-water line of the shore to corner No. 5, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
5	38 07 39.96	76 28 03.41	N. 45 49 W.	S. 45 49 E.	1,344	Goose.
			S. 31 53 W.	N. 31 53 E.	906	Smack.
			S. 73 48 E.	N. 73 47 W.	3,652	Between.

HURDLE.

(*St. George River—Chart No. 24.*)

1	38 07 17.82	76 28 32.98	S. 85 39 E.	N. 85 39 W.	309	Smack.
			N. 46 32 E.	S. 46 32 W.	1,085	Cherry.
			N. 61 42 W.	S. 61 42 E.	1,025	Adams.
2	38 07 38.80	76 29 04.22	N. 33 55 E.	S. 33 55 W.	1,176	Goose.
			N. 51 43 W.	S. 51 44 E.	1,368	Straits.
			S. 17 33 W.	N. 17 33 E.	233	Adams.
3	38 07 51.97	76 28 53.00	N. 33 53 E.	S. 33 53 W.	641	Goose.
			N. 44 49 W.	S. 44 49 E.	1,208	Coombs.
			S. 29 00 W.	N. 29 00 E.	761	Adams.
4	38 07 40.98	76 28 19.34	S. 3 52 W.	N. 3 52 E.	806	Smack.
			S. 85 22 E.	N. 85 22 W.	427	Cherry.
			N. 29 21 E.	S. 29 21 W.	1,015	Price.
5	38 07 23.00	76 28 15.13	N. 28 41 E.	S. 28 41 W.	651	Cherry.
			N. 77 16 W.	S. 77 17 E.	1,413	Adams.
			S. 40 07 W.	N. 40 07 E.	258	Smack.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

GOOSE POINT.

(*St. George River—Chart No. 24.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 07 40.98	76 28 19.34	S. 3 52 W.	N. 3 52 E.	806	Smack.
			S. 85 22 E.	N. 85 22 W.	427	Cherry.
			N. 29 21 E.	S. 29 21 W.	1,015	Price.
2	38 07 51.97	76 28 53.00	N. 33 53 E.	S. 33 53 W.	641	Goose.
			N. 44 49 W.	S. 44 49 E.	1,208	Coombs.
			S. 29 00 W.	N. 29 00 E.	761	Adams.
3	38 08 07.74	76 28 39.59	S. 31 14 W.	N. 31 14 E.	1,400	Adams.
			S. 15 52 E.	N. 15 52 W.	1,774	Smack.
			S. 45 49 E.	N. 45 49 W.	1,344	Cherry.
	Thence from corner No. 3 along the mean low-water line of the shore to corner No. 4, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
4	38 08 02.90	76 28 24.82	S. 3 24 E.	N. 3 24 W.	1,545	Smack.
			S. 36 24 E.	N. 36 24 W.	961	Cherry.
			N. 77 12 W.	S. 77 12 E.	661	Price.

ISLAND SHORE.

(*St. George River—Chart No. 24.*)

1	38 07 38.80	76 29 04.22	N. 33 55 E.	S. 33 55 W.	1,176	Goose.
			N. 51 43 W.	S. 51 44 E.	1,368	Straits.
			S. 17 33 W.	N. 17 33 E.	233	Adams.
2	38 07 48.56	76 29 31.42	S. 49 55 E.	N. 49 55 W.	855	Adams.
			N. 10 09 E.	S. 10 09 W.	988	Coombs.
			N. 33 58 W.	S. 33 58 E.	626	Straits.
3	38 08 00.28	76 29 40.90	S. 43 48 E.	N. 43 48 W.	1,310	Adams.
			N. 36 29 E.	S. 36 29 W.	717	Coombs.
			N. 38 13 W.	S. 38 13 E.	156	Straits.
4	38 08 15.42	76 29 40.34	S. 16 03 W.	N. 16 03 E.	402	Straits.
			N. 80 53 E.	S. 80 53 W.	417	Coombs.
			N. 3 04 E.	S. 3 04 W.	478	Taylor.
5	38 07 51.97	76 28 53.00	N. 33 53 E.	S. 33 53 W.	641	Goose.
			N. 44 49 W.	S. 44 49 E.	1,208	Coombs.
			S. 29 00 W.	N. 29 00 E.	761	Adams.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

MILBOURNE SHORE.

(*St. George River—Chart No. 24.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 07 51.97	76 28 53.00	N. 33 53 E.	S. 33 53 W.	641	Goose.
			N. 44 49 W.	S. 44 49 E.	1,208	Coombs.
			S. 29 00 W.	N. 29 00 E.	761	Adams.
2	38 08 15.42	76 29 40.34	S. 16 03 W.	N. 16 03 E.	402	Straits.
			N. 80 53 E.	S. 80 53 W.	417	Coombs.
			N. 3 04 E.	S. 3 04 W.	478	Taylor.
3	38 08 21.42	76 29 43.00	S. 3 54 W.	N. 3 54 E.	595	Straits.
			S. 74 14 E.	N. 74 13 W.	501	Coombs.
			N. 19 15 E.	S. 19 15 W.	291	Taylor.
4	38 08 27.38	76 29 45.70	S. 55 31 W.	N. 55 31 E.	521	Swan.
			S. 58 41 E.	N. 58 41 W.	649	Coombs.
			N. 66 20 E.	S. 66 20 W.	184	Taylor.
	Thence from corner No. 4 along the mean low-water line of the shore to corner No. 5, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
5	38 08 29.80	76 29 27.82	S. 88 30 W.	N. 88 30 E.	308	Taylor.
			S. 27 00 W.	N. 27 00 E.	980	Straits.
			S. 10 33 E.	N. 10 33 W.	426	Coombs.
6	38 08 17.38	76 29 24.89	S. 49 02 W.	N. 49 01 E.	692	Straits.
			S. 17 32 E.	N. 17 31 W.	1,598	Adams.
			S. 74 55 E.	N. 74 55 W.	1,250	Goose.
7	38 08 12.16	76 29 04.76	N. 71 50 W.	S. 71 50 E.	564	Coombs.
			S. 2 22 W.	N. 2 22 E.	1,348	Adams.
			S. 77 28 E.	N. 77 28 W.	687	Goose.
8	38 08 18.06	76 29 01.94	S. 87 51 W.	N. 87 51 E.	611	Coombs.
			S. 4 50 W.	N. 4 50 E.	1,551	Adams.
			S. 59 41 E.	N. 59 41 W.	690	Goose.
	Thence from corner No. 8 along the mean low-water line of the shore to corner No. 9, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
9	38 08 07.74	76 28 39.59	S. 31 14 W.	N. 31 14 E.	1,400	Adams.
			S. 15 52 E.	N. 15 52 W.	1,774	Smack.
			S. 45 49 E.	N. 45 49 W.	1,344	Cherry.

BOUNDARIES OF NATURAL OYSTER BEDS—continued.

STRAITS.

(St. George River—Chart No. 24.)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 08 04.18	76 29 58.62	S. 88 40 E.	N. 88 40 W.	376	Straits.
			N. 9 53 W.	S. 9 53 E.	495	Swan.
			N. 88 00 W.	S. 88 01 E.	2,913	Piney Point Light.
2	38 08 15.94	76 30 07.24	S. 83 36 W.	N. 83 35 E.	2,699	Piney Point Light.
			S. 56 11 E.	N. 56 11 W.	728	Straits.
			N. 57 45 E.	S. 57 45 W.	171	Swan.
	Thence from corner No. 2 along the mean low-water line of the shore to corner No. 3, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
3	38 08 15.32	76 30 01.66	S. 49 54 E.	N. 49 54 W.	596	Straits.
			N. 85 57 E.	S. 85 56 W.	982	Coombs.
			N. 2 03 W.	S. 2 03 E.	115	Swan.
4	38 08 13.00	76 29 57.38	S. 48 12 E.	N. 48 13 W.	459	Straits.
			N. 80 19 E.	S. 80 19 W.	878	Coombs.
			N. 31 49 W.	S. 31 49 E.	224	Swan.
	Thence from corner No. 4 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					

TARKHILL.

(St. George River—Chart No. 24.)

1	38 08 20.03	76 29 58.70	N. 57 56 E.	S. 57 56 W.	607	Taylor.
			N. 21 12 W.	S. 21 13 E.	814	Robrecht.
			S. 60 30 W.	N. 60 30 E.	95	Swan.
2	38 08 50.98	76 29 54.84	N. 57 12 W.	S. 57 13 E.	1,077	Russell.
			S. 54 19 W.	N. 54 19 E.	489	Robrecht.
			S. 55 35 E.	N. 55 35 W.	337	Tarkhill.
3	38 09 03.21	76 29 50.34	N. 80 34 W.	S. 80 35 E.	1,040	Russell.
			S. 36 34 W.	N. 36 34 E.	867	Robrecht.
			S. 14 42 E.	N. 14 42 W.	623	Tarkhill.
4	38 08 48.22	76 29 30.20	N. 66 37 W.	S. 66 38 E.	1,702	Russell.
			S. 75 33 W.	N. 75 33 E.	390	Tarkhill.
			S. 21 17 W.	N. 21 16 E.	676	Taylor.
	Thence from corner No. 4 along the mean low-water line of the shore to corner No. 5, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
5	38 08 27.38	76 29 45.70	S. 55 31 W.	N. 55 31 E.	521	Swan.
			S. 58 41 E.	N. 58 41 W.	649	Coombs.
			N. 66 20 E.	S. 66 20 W.	184	Taylor.
6	38 08 21.42	76 29 43.00	S. 3 54 W.	N. 3 54 E.	595	Straits.
			S. 74 14 E.	N. 74 13 W.	501	Coombs.
			N. 19 15 E.	S. 19 15 W.	291	Taylor.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

SWAN.

(*St. George River—Chart No. 24.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 08 20.03	76 29 58.70	N. 57 56 E.	S. 57 56 W.	607	Taylor.
			N. 21 12 W.	S. 21 13 E.	814	Robrecht.
			S. 60 30 W.	N. 60 30 E.	95	Swan.
2	38 08 27.78	76 30 07.22	S. 25 03 E.	N. 25 03 W.	340	Swan.
			N. 85 22 E.	S. 85 22 W.	744	Taylor.
			N. 7 45 W.	S. 7 45 E.	503	Robrecht.
3	38 08 42.54	76 30 09.76	S. 14 42 E.	N. 14 42 W.	833	Swan.
			N. 82 04 E.	S. 82 04 W.	681	Tarkhill.
			N. 7 19 W.	S. 7 19 E.	1,167	Lowell.
4	38 08 50.98	76 29 54.84	N. 57 12 W.	S. 57 13 E.	1,077	Russell.
			S. 54 19 W.	N. 54 19 E.	489	Robrecht.
			S. 55 35 E.	N. 55 35 W.	337	Tarkhill.

ROLLIN.

(*St. George River—Chart No. 24.*)

1	38 08 50.80	76 30 07.82	N. 43 36 W.	S. 43 36 E.	813	Russell.
			S. 10 32 W.	N. 10 32 E.	283	Robrecht.
			S. 73 31 E.	N. 73 31 W.	651	Tarkhill.
2	38 08 59.04	76 30 20.32	S. 26 49 E.	N. 26 49 W.	623	Robrecht.
			N. 12 26 E.	S. 12 26 W.	616	Lowell.
			N. 36 13 W.	S. 36 13 E.	385	Russell.
3	38 09 03.57	76 30 12.88	N. 8 19 W.	S. 8 19 E.	453	Lowell.
			N. 69 39 W.	S. 69 39 E.	454	Russell.
			S. 6 41 E.	N. 6 41 W.	714	Robrecht.
4	38 08 50.98	76 29 54.84	N. 57 12 W.	S. 57 13 E.	1,077	Russell.
			S. 54 19 W.	N. 54 19 E.	489	Robrecht.
			S. 55 35 E.	N. 55 35 W.	337	Tarkhill.

CEDAR POINT.

(*St. George River—Chart No. 24.*)

1	38 08 50.98	76 29 54.84	N. 57 12 W.	S. 57 13 E.	1,077	Russell.
			S. 54 19 W.	N. 54 19 E.	489	Robrecht.
			S. 55 35 E.	N. 55 35 W.	337	Tarkhill.
2	38 09 03.57	76 30 12.88	N. 8 19 W.	S. 8 19 E.	453	Lowell.
			N. 69 39 W.	S. 69 39 E.	454	Russell.
			S. 6 41 E.	N. 6 41 W.	714	Robrecht.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

CEDAR POINT—Continued.

(*St. George River—Chart No. 24.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
3	38 09 10.59	76 30 01.22	N. 45 13 E.	S. 45 13 W.	434	Arbuckle.
			N. 60 37 W.	S. 60 37 E.	432	Lowell.
			S. 83 44 W.	N. 83 44 E.	740	Russell.
	Thence from corner No. 3 along the mean low-water line of the shore to corner No. 4, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
4	38 09 03.21	76 29 50.34	N. 80 34 W.	S. 80 35 E.	1,040	Russell.
			S. 36 34 W.	N. 36 34 E.	867	Robrecht.
			S. 14 42 E.	N. 14 42 W.	623	Tarkhill.

SHEHAN.

(*St. George River—Chart No. 24.*)

1	38 08 59.04	76 30 20.32	S. 26 49 E.	N. 26 49 W.	623	Robrecht.
			N. 12 26 E.	S. 12 26 W.	616	Lowell.
			N. 36 13 W.	S. 36 13 E.	385	Russell.
2	38 09 04.56	76 30 28.60	S. 34 03 E.	N. 34 03 W.	898	Robrecht.
			N. 40 23 E.	S. 40 23 W.	545	Lowell.
			N. 3 11 W.	S. 3 11 E.	125	Russell.
	Thence from corner No. 2 along the mean low-water line of the shore to corner No. 3, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
3	38 09 08.25	76 30 28.86	S. 30 25 E.	N. 30 24 W.	1,005	Robrecht.
			N. 51 05 E.	S. 51 05 W.	463	Lowell.
			N. 4 17 W.	S. 4 17 E.	875	Shehan.
4	38 09 10.60	76 30 24.20	N. 48 08 E.	S. 48 08 W.	316	Lowell.
			N. 13 26 W.	S. 13 26 E.	816	Shehan.
			S. 57 26 W.	N. 57 26 E.	147	Russell.
5	38 09 15.18	76 30 27.62	S. 8 04 W.	N. 8 04 E.	235	Russell.
			N. 80 07 E.	S. 80 07 W.	332	Lowell.
			N. 8 47 W.	S. 8 47 E.	645	Shehan.
6	38 09 18.67	76 30 20.18	N. 29 42 W.	S. 29 42 E.	599	Shehan.
			S. 33 20 W.	N. 33 20 E.	421	Russell.
			S. 64 47 E.	N. 64 47 W.	142	Lowell.
	Thence from corner No. 6 along the mean low-water line of the shore to corner No. 7, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
7	38 09 18.02	76 30 08.56	S. 77 51 W.	N. 77 51 E.	185	Lowell.
			S. 1 32 W.	N. 1 32 E.	1,196	Robrecht.
			N. 83 46 E.	S. 83 46 W.	506	Arbuckle.
8	38 09 14.82	76 29 58.94	N. 56 37 E.	S. 56 37 W.	296	Arbuckle.
			N. 80 59 W.	S. 80 59 E.	442	Lowell.
			S. 74 26 W.	N. 74 25 E.	827	Russell.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

SHEHAN—Continued.

(*St. George River—Chart No. 24.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
9	38 09 10.59	76 30 01.22	N. 45 13 E.	S. 45 13 W.	434	Arbuckle.
			N. 60 37 W.	S. 60 37 E.	432	Lowell.
			S. 83 44 W.	N. 83 44 E.	740	Russell.
10	38 09 03.57	76 30 12.88	N. 8 19 W.	S. 8 19 E.	453	Lowell.
			N. 69 39 W.	S. 69 39 E.	454	Russell.
			S. 6 41 E.	N. 6 41 W.	714	Robrecht.

LONG.

(*St. George River—Chart No. 24.*)

1	38 09 20.80	76 30 31.64	S. 73 01 E.	N. 73 01 W.	454	Lowell.
			N. 1 05 E.	S. 1 05 W.	451	Shehan.
			N. 80 37 E.	S. 80 37 W.	439	Wall.
2	38 09 38.47	76 30 36.20	N. 53 23 W.	S. 53 23 E.	611	Chadwick.
			S. 30 43 W.	N. 30 43 E.	610	Wall.
			S. 41 36 E.	N. 41 36 W.	196	Shehan.
	Thence from corner No. 2 along the mean low-water line of the shore to corner No. 3, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
3	38 09 29.00	76 30 17.70	S. 75 42 W.	N. 75 42 E.	830	Wall.
			S. 23 03 W.	N. 23 03 E.	759	Russell.
			S. 67 06 E.	N. 67 06 W.	810	Arbuckle.

CHADWICK.

(*St. George River—Chart No. 24.*)

1	38 09 28.78	76 30 47.39	S. 3 56 W.	N. 3 56 E.	198	Wall.
			N. 67 08 E.	S. 67 09 W.	464	Shehan.
			N. 15 36 W.	S. 15 36 E.	718	Chadwick.
2	38 09 31.02	76 30 52.19	S. 22 42 E.	N. 22 42 W.	296	Wall.
			N. 79 19 E.	S. 79 19 W.	565	Shehan.
			N. 6 03 W.	S. 6 03 E.	620	Chadwick.
3	38 09 46.26	76 30 47.96	N. 60 07 W.	S. 60 07 E.	206	Chadwick.
			S. 80 52 W.	N. 80 52 E.	478	Guither.
			S. 0 06 E.	N. 0 06 W.	787	Wall.
4	38 09 39.14	76 30 41.50	N. 75 42 W.	S. 75 42 E.	665	Guither.
			S. 17 18 W.	N. 17 18 E.	573	Wall.
			S. 58 04 E.	N. 58 04 W.	319	Shehan.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

MOULDY CREEK.

(*Upper Bretons Bay—Chart No. 25.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 16 00.00	76 37 51.44	N. 1 24 W.	S. 1 24 E.	782	Cedar.
			N. 39 58 W.	S. 39 58 E.	988	Noname.
			S. 68 31 W.	N. 68 31 E.	334	Mouldy.
2	38 16 00.00	76 37 58.74	N. 48 21 E.	S. 48 21 W.	370	Pine.
			N. 30 11 W.	S. 30 11 E.	876	Noname.
			S. 43 35 W.	N. 43 35 E.	168	Mouldy.
3	38 16 28.70	76 38 05.44	S. 51 12 W.	N. 51 12 E.	336	Noname.
			S. 62 17 E.	N. 62 17 W.	398	Cedar.
			N. 21 22 E.	S. 21 22 W.	655	Buzzard.
4	38 16 24.63	76 37 52.98	S. 82 55 W.	N. 82 55 E.	598	Noname.
			S. 24 20 E.	N. 24 20 W.	52	Cedar.
			N. 35 26 E.	S. 35 26 W.	436	Corn.
	Thence from corner No. 4 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					

ISLAND.

(*Upper Bretons Bay—Chart No. 25.*)

1	38 15 59.22	76 38 50.08	S. 83 15 E.	N. 83 14 W.	656	Beau.
			N. 23 09 E.	S. 23 09 W.	270	Healey.
			N. 84 52 W.	S. 84 53 E.	744	Hollow.
2	38 16 05.53	76 38 47.26	S. 55 16 W.	N. 55 16 E.	967	Trees.
			S. 2 03 E.	N. 2 03 W.	889	Lovers.
			N. 41 18 E.	S. 41 18 W.	47	Healey.
3	38 16 04.84	76 38 40.20	S. 55 35 E.	N. 55 35 W.	471	Beau.
			N. 29 49 E.	S. 29 49 W.	166	Belle.
			N. 69 28 W.	S. 69 28 E.	167	Healey.
4	38 16 11.84	76 38 25.36	N. 36 47 E.	S. 36 47 W.	447	Noname.
			S. 73 37 W.	N. 73 37 E.	325	Belle.
			S. 0 36 W.	N. 0 36 E.	503	Beau.
5	38 16 03.00	76 38 19.42	N. 66 14 W.	S. 66 14 E.	513	Belle.
			S. 38 34 W.	N. 38 34 E.	263	Beau.
			S. 62 46 E.	N. 62 45 W.	488	Mouldy.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

PAW PAW HOLLOW.

(*Upper Bretons Bay—Chart No. 25.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 15 46.00	76 38 55.86	N. 48 48 W.	S. 48 48 E.	779	Hollow.
			N. 79 15 W.	S. 79 15 E.	576	Trees.
			S. 48 32 E.	N. 48 32 W.	348	Lovers.
2	38 15 53.84	76 39 09.82	N. 40 59 W.	S. 40 59 E.	328	Hollow.
			S. 51 13 W.	N. 51 13 E.	250	Trees.
			S. 51 56 E.	N. 51 56 W.	803	Lovers.
3	38 16 09.17	76 38 58.40	S. 62 36 W.	N. 62 35 E.	584	Hollow.
			S. 22 04 W.	N. 22 04 E.	2,773	What.
			S. 75 03 E.	N. 75 03 W.	339	Healey.
4	38 16 05.53	76 38 47.26	S. 55 16 W.	N. 55 16 E.	967	Trees.
			S. 2 03 E.	N. 2 03 W.	889	Lovers.
			N. 41 18 E.	S. 41 18 W.	47	Healey.
5	38 15 59.22	76 38 50.08	S. 83 15 E.	N. 83 14 W.	656	Beau.
			N. 23 09 E.	S. 23 09 W.	270	Healey.
			N. 84 52 W.	S. 84 53 E.	744	Hollow.

LOVERS POINT.

(*Middle Bretons Bay—Chart No. 25.*)

1	38 15 27.30	76 39 02.52	N. 47 33 E.	S. 47 33 W.	593	Lovers.
			N. 27 48 W.	S. 27 48 E.	834	Trees.
			S. 38 50 W.	N. 38 50 E.	1,486	What.
2	38 15 53.84	76 39 09.82	N. 40 59 W.	S. 40 59 E.	328	Hollow.
			S. 51 13 W.	N. 51 13 E.	250	Trees.
			S. 51 56 E.	N. 51 56 W.	803	Lovers.
3	38 15 46.00	76 38 55.86	N. 48 48 W.	S. 48 48 E.	779	Hollow.
			N. 79 15 W.	S. 79 15 E.	576	Trees.
			S. 48 32 E.	N. 48 32 W.	348	Lovers.
4	38 15 27.46	76 38 55.38	N. 32 07 E.	S. 32 07 W.	466	Lovers.
			N. 38 19 W.	S. 38 19 E.	934	Trees.
			S. 43 58 W.	N. 43 58 E.	1,616	What.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

STONY.

(*Middle Bretons Bay—Chart No. 25.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 15 18.94	76 39 49.00	N. 21 58 W.	S. 21 58 E.	423	Paw.
			S. 54 43 W.	N. 54 43 E.	1,390	Protestant.
			S. 19 07 E.	N. 19 07 W.	930	What.
2	38 15 30.80	76 40 39.14	N. 68 57 W.	S. 68 57 E.	363	Cherry Cove.
			S. 9 22 E.	N. 9 21 W.	1,219	Protestant.
			S. 89 39 E.	N. 89 39 W.	1,175	Paw.
3	38 15 36.14	76 40 35.30	S. 83 32 W.	N. 83 32 E.	443	Cherry Cove.
			S. 3 58 E.	N. 3 58 W.	1,387	Protestant.
			S. 46 27 E.	N. 46 26 W.	2,118	What.
	Thence from corner No. 3 along the mean low-water line of the shore to corner No. 4, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
4	38 15 42.60	76 39 42.36	S. 39 36 W.	N. 39 36 E.	525	Paw.
			S. 4 27 E.	N. 4 27 W.	1,679	What.
			N. 71 39 E.	S. 71 39 W.	705	Trees.
5	38 15 38.58	76 39 34.38	N. 89 07 E.	S. 89 07 W.	1,285	Lovers.
			N. 51 59 E.	S. 51 59 W.	581	Trees.
			S. 63 44 W.	N. 63 44 E.	610	Paw.

GOUGH.

(*Middle Bretons Bay—Chart No. 25.*)

1	38 14 52.18	76 39 58.20	N. 87 11 E.	S. 87 12 W.	549	What.
			N. 3 48 E.	S. 3 48 W.	1,298	Paw.
			N. 83 39 W.	S. 83 39 E.	897	Protestant.
2	38 14 59.78	76 39 59.20	S. 68 10 E.	N. 68 10 W.	620	What.
			N. 6 12 E.	S. 6 12 W.	1,044	Paw.
			S. 79 42 W.	N. 79 41 E.	878	Protestant.
3	38 15 00.46	76 39 19.05	N. 33 54 E.	S. 33 54 W.	1,573	Lovers.
			N. 43 17 W.	S. 43 18 E.	1,392	Paw.
			S. 84 40 W.	N. 84 40 E.	1,940	Protestant.
4	38 14 56.02	76 39 18.40	N. 30 35 E.	S. 30 35 W.	1,691	Lovers.
			N. 39 53 W.	S. 39 54 E.	1,516	Paw.
			S. 89 05 W.	N. 89 04 E.	1,949	Protestant.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

BLACK WALNUT.

(*Lower Bretons Bay—Chart No. 25.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 14 31.04	76 41 12.92	S. 81 47 W.	N. 81 47 E.	1,191	Newtown.
			S. 3 33 E.	N. 3 33 W.	84	Dune.
			N. 54 56 E.	S. 54 55 W.	412	Fence.
2	38 14 40.99	76 41 27.04	N. 64 31 W.	S. 64 31 E.	749	Sandbar.
			S. 57 49 W.	N. 57 49 E.	949	Newtown.
			S. 42 23 E.	N. 42 23 W.	564	Dune.
3	38 14 53.04	76 41 10.31	S. 85 43 W.	N. 85 43 E.	1,125	Sandbar.
			S. 28 06 E.	N. 28 06 W.	573	Fence.
			N. 86 06 E.	S. 86 06 W.	1,029	Protestant.
4	38 15 07.04	76 40 27.90	N. 47 48 E.	S. 47 48 W.	1,182	Paw.
			N. 34 22 W.	S. 34 22 E.	1,129	Cherry Cove.
			S. 14 06 W.	N. 14 06 E.	413	Protestant.
5	38 14 59.78	76 39 59.20	S. 68 10 E.	N. 68 10 W.	620	What.
			N. 6 12 E.	S. 6 12 W.	1,044	Paw.
			S. 79 42 W.	N. 79 41 E.	878	Protestant.
6	38 14 52.18	76 39 58.20	N. 87 11 E.	S. 87 12 W.	549	What.
			N. 3 48 E.	S. 3 48 W.	1,298	Paw.
			N. 83 39 W.	S. 83 39 E.	897	Protestant.
7	38 14 44.29	76 39 57.42	N. 26 07 E.	S. 26 07 W.	2,436	Trees.
			N. 2 24 E.	S. 2 24 W.	1,563	Paw.
			N. 68 10 W.	S. 68 10 E.	982	Protestant.

Thence from corner No. 7 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

RAILWAY.

(*Lower Bretons Bay—Chart No. 25.*)

1	38 14 53.58	76 41 50.42	S. 28 05 W.	N. 28 05 E.	116	Sandbar.
			S. 68 39 E.	N. 68 38 W.	1,434	Fence.
			N. 2 24 E.	S. 2 24 W.	945	Compton.
2	38 14 59.46	76 41 59.28	S. 31 08 E.	N. 31 08 W.	350	Sandbar.
			S. 86 24 E.	N. 86 23 W.	2,334	Protestant.
			N. 20 12 E.	S. 20 12 W.	795	Compton.
3	38 15 32.48	76 41 36.98	S. 40 53 W.	N. 40 53 E.	487	Compton.
			S. 54 02 E.	N. 54 02 W.	2,145	Protestant.
			S. 88 37 E.	N. 88 36 W.	2,713	Paw.
4	38 15 29.21	76 41 19.62	S. 71 43 W.	N. 71 42 E.	821	Compton.
			S. 47 53 E.	N. 47 53 W.	1,718	Protestant.
			N. 76 00 E.	S. 76 00 W.	761	Cherry Cove.
5	38 15 26.92	76 40 41.23	S. 13 20 E.	N. 13 20 W.	1,102	Protestant.
			N. 84 15 E.	S. 84 16 W.	1,236	Paw.
			N. 47 15 W.	S. 47 15 E.	384	Cherry Cove.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

BRETONS BAY.

(*Lower Bretons Bay—Chart No. 25.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′ ″	° ′	*Yards.*	
1	38 14 25.00	76 41 42.04	S. 86 12 E.	N. 86 11 W.	696	Grove.
			N. 17 51 W.	S. 17 51 E.	904	Sandbar.
			N. 85 17 W.	S. 85 17 E.	406	Newtown.
2	38 14 38.98	76 42 01.00	S. 12 49 E.	N. 12 49 W.	448	Newtown.
			S. 66 39 E.	N. 66 39 W.	1,306	Grove.
			N. 30 11 E.	S. 30 11 W.	452	Sandbar.
	Thence from corner No. 2 along the mean low-water line of the shore to corner No. 3, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
3	38 14 48.12	76 41 54.53	S. 5 33 W.	N. 5 33 E.	750	Newtown.
			S. 51 12 E.	N. 51 11 W.	1,318	Grove.
			N. 33 50 E.	S. 33 50 W.	98	Sandbar.
4	38 14 49.81	76 41 34.62	S. 66 36 E.	N. 66 36 W.	998	Fence.
			S. 36 51 W.	N. 36 51 E.	1,006	Newtown.
			N. 86 55 W.	S. 86 55 E.	476	Sandbar.
5	38 14 25.80	76 41 31.20	S. 79 48 E.	N. 79 47 W.	413	Grove.
			N. 34 11 W.	S. 34 12 E.	1,006	Sandbar
			N. 89 28 W.	S. 89 28 E.	692	Newtown.

BLUE SOW.

(*Lower Bretons Bay—Chart No. 25.*)

1	38 13 46.40	76 42 40.16	N. 45 50 E.	S. 45 50 W.	805	Kaywood.
			N. 59 56 W.	S. 59 56 E.	930	St. Clement.
			S. 25 57 W.	N. 25 57 E.	1,938	Heron.
2	38 13 50.86	76 42 44.04	N. 58 54 E.	S. 58 54 W.	795	Kaywood.
			N. 65 47 W.	S. 65 48 E.	769	St. Clement.
			S. 21 32 W.	N. 21 31 E.	2,030	Heron.
3	38 14 00.95	76 42 26.48	S. 88 47 W.	N. 88 46 E.	1,168	St. Clement.
			S. 28 30 W.	N. 28 29 E.	2,540	Heron.
			N. 71 48 E.	S. 71 48 W.	224	Kaywood.
	Thence from corner No. 3 along the mean low-water line of the shore to corner No. 4, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
4	38 14 08.44	76 42 13.04	S. 38 19 W.	N. 38 19 E.	233	Kaywood.
			S. 88 02 E.	N. 88 03 W.	1,574	Cedoak.
			N. 35 21 E.	S. 35 21 W.	725	Newtown.
5	38 14 17.82	76 41 56.29	N. 79 38 E.	S. 79 39 W.	1,091	Grove.
			N. 5 21 W.	S. 5 21 E.	277	Newtown.
			S. 49 47 W.	N. 49 46 E.	772	Kaywood.
6	38 14 13.42	76 41 52.08	N. 70 18 E.	S. 70 19 W.	1,021	Grove.
			N. 18 00 W.	S. 18 00 E.	446	Newtown.
			S. 63 28 W.	N. 63 28 E.	784	Kaywood.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

HERON ISLAND SOUND.

(Entrance to Bretons and St. Clement Bays—Chart No. 25.)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 13 08.76	76 42 46.00	N. 21 49 E.	S. 21 49 W.	1,975	Kaywood.
			N. 20 31 W.	S. 20 31 E.	1,853	St. Clement.
			S. 55 40 W.	N. 55 40 E.	839	Heron.
2	38 13 32.26	76 43 05.00	S. 8 25 W.	N. 8 25 E.	1,280	Heron.
			N. 50 02 E.	S. 50 02 W.	1,615	Kaywood.
			N. 8 40 W.	S. 8 40 E.	956	St. Clement.
3	38 13 47.42	76 41 33.00	N. 37 47 E.	S. 37 48 W.	829	Cedoak.
			N. 66 29 W.	S. 66 29 E.	1,319	Kaywood.
			S. 56 01 W.	N. 56 00 E.	3,177	Heron.

HERON ISLAND REEF.

(Entrance to Bretons and St. Clement Bays—Chart No. 25.)

1	38 12 54.73	76 43 12.04	N. 1 08 E.	S. 1 08 W.	2,209	St. Clement.
			N. 30 49 W.	S. 30 50 E.	3,305	St. Patrick.
			S. 68 40 W.	N. 68 39 E.	2,592	Blakistone Island Light.
2	38 13 07.68	76 43 51.72	S. 44 37 W.	N. 44 36 E.	1,933	Blakistone Island Light.
			S. 67 32 E.	N. 67 31 W.	1,142	Heron.
			N. 31 49 E.	S. 31 50 W.	2,090	St. Clement.
3	38 13 08.36	76 43 24.62	S. 55 56 W.	N. 55 55 E.	2,510	Blakistone Island Light.
			S. 36 04 E.	N. 36 04 W.	568	Heron.
			N. 12 14 E.	S. 12 14 W.	1,785	St. Clement.
4	38 13 01.44	76 43 06.38	N. 31 32 E.	S. 31 33 W.	2,437	Kaywood.
			N. 3 05 W.	S. 3 05 E.	1,984	St. Clement.
			S. 33 39 W.	N. 33 39 E.	271	Heron.

DUKEHART CHANNEL.

(Lower St. Clement Bay—Chart No. 25.)

1	38 12 55.78	76 44 28.62	S. 21 05 W.	N. 21 05 E.	1,049	Blakistone Island Light.
			S. 89 00 E.	N. 89 00 W.	2,037	Heron.
			N. 43 46 E.	S. 43 46 W.	3,008	St. Clement.
2	38 13 04.56	76 45 04.28	S. 24 14 E.	N. 24 14 W.	1,398	Blakistone Island Light.
			S. 83 40 E.	N. 83 39 W.	3,004	Heron.
			N. 27 16 E.	S. 27 17 W.	2,827	St. Patrick.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

DUKEHART CHANNEL—Continued.

(Lower St. Clement Bay—Chart No. 25.)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
3	38 13 12.00	76 45 07.02	S. 22 56 E.	N. 22 55 W.	1,656	Blakistone Island Light.
			S. 79 13 E.	N. 79 12 W.	3,113	Heron.
			N. 62 21 E.	S. 62 22 W.	3,502	St. Clement.
4	38 13 37.94	76 44 32.38	S. 6 34 W.	N. 6 34 E.	2,416	Blakistone Island Light.
			S. 55 43 E.	N. 55 42 W.	2,586	Heron.
			N. 17 48 E.	S. 17 49 W.	1,450	St. Patrick.
5	38 13 25.40	76 43 45.90	S. 41 07 E.	N. 41 07 W.	1,372	Heron.
			N. 38 49 E.	S. 38 49 W.	1,510	St. Clement.
			N. 23 43 W.	S. 23 43 E.	1,970	St. Patrick.

HORSE.

(Lower St. Clement Bay—Chart No. 25.)

1	38 13 25.40	76 43 45.90	S. 41 07 E.	N. 41 07 W.	1,372	Heron.
			N. 38 49 E.	S. 38 49 W.	1,510	St. Clement.
			N. 23 43 W.	S. 23 43 E.	1,970	St. Patrick.
2	38 13 37.94	76 44 32.38	S. 6 34 W.	N. 6 34 E.	2,416	Blakistone Island Light.
			S. 55 43 E.	N. 55 42 W.	2,586	Heron.
			N. 17 48 E.	S. 17 49 W.	1,450	St. Patrick.
3	38 14 05.42	76 44 22.63	S. 38 14 E.	N. 38 14 W.	3,035	Heron.
			S. 84 47 E.	N. 84 46 W.	1,929	St. Clement.
			N. 22 04 E.	S. 22 04 W.	491	St. Patrick.
4	38 14 11.48	76 43 51.36	S. 70 46 E.	N. 70 46 W.	1,154	St. Clement.
			N. 11 05 W.	S. 11 05 E.	1,075	Canoe.
			N. 68 50 W.	S. 68 50 E.	694	St. Patrick.
5	38 13 56.66	76 43 42.40	S. 21 09 E.	N. 21 09 W.	2,244	Heron.
			N. 81 59 E.	S. 81 59 W.	860	St. Clement.
			N. 49 45 W.	S. 49 45 E.	1,160	St. Patrick.

ST. CLEMENT ENTRANCE.

(Lower St. Clement Bay—Chart No. 25.)

1	38 13 25.40	76 43 45.90	S. 41 07 E.	N. 41 07 W.	1,372	Heron.
			N. 38 49 E.	S. 38 49 W.	1,510	St. Clement.
			N. 23 43 W.	S. 23 43 E	1,970	St. Patrick.
2	38 13 56.66	76 43 42.40	S. 21 09 E.	N. 21 09 W.	2,244	Heron.
			N. 81 59 E.	S. 81 59 W.	860	St. Clement.
			N. 49 45 W.	S. 49 45 E.	1,160	St. Patrick.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

ST. CLEMENT ENTRANCE—Continued.

(Lower St. Clement Bay—Chart No. 25.)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
3	38 13 56.94	76 43 20.18	S. 5 54 E.	N. 5 54 W.	2,108	Heron.
			N. 67 02 E.	S. 67 02 W.	282	St. Clement.
			N. 63 22 W.	S. 63 23 E.	1,652	St. Patrick.
4	38 13 33.38	76 43 20.70	S. 10 02 E.	N. 10 01 W.	1,323	Heron.
			N. 16 51 E.	S. 16 51 W.	947	St. Clement.
			N. 43 37 W.	S. 43 38 E.	2,120	St. Patrick.

OLD WRECK.

(Lower St. Clement Bay—Chart No. 25.)

1	38 14 11.48	76 43 51.36	S. 70 46 E.	N. 70 46 W.	1,154	St. Clement.
			N. 11 05 W.	S. 11 05 E.	1,075	Canoe.
			N. 68 50 W.	S. 68 50 E.	694	St. Patrick.
2	38 14 33.42	76 44 07.20	S. 24 47 W.	N. 24 47 E.	539	St. Patrick.
			S. 53 27 E.	N. 53 27 W.	1,881	St. Clement.
			N. 34 15 E.	S. 34 15 W.	382	Canoe.
3	38 14 26.96	76 43 46.24	S. 82 22 E.	N. 82 21 W.	1,124	Roof.
			N. 32 45 W.	S. 32 45 E.	635	Canoe.
			S. 70 52 W.	N. 70 52 E.	829	St. Patrick.

NEWTOWN FLATS.

(Lower St. Clement Bay—Chart No. 25.)

1	38 14 11.48	76 43 51.36	S. 70 46 E.	N. 70 46 W.	1,154	St. Clement.
			N. 11 05 W.	S. 11 05 E.	1,075	Canoe.
			N. 68 50 W.	S. 68 50 E.	694	St. Patrick.
2	38 14 26.96	76 43 46.24	S. 82 22 E.	N. 82 21 W.	1,124	Roof.
			N. 32 45 W.	S. 32 45 E.	635	Canoe.
			S. 70 52 W.	N. 70 52 E.	829	St. Patrick.
3	38 14 56.72	76 43 15.80	S. 14 50 E.	N. 14 50 W.	1,190	Roof.
			S. 75 37 E.	N. 75 37 W.	877	Rails.
			N. 2 00 W.	S. 2 00 E.	729	Woods.
4	38 14 28.41	76 43 25.92	S. 70 57 E.	N. 70 56 W.	607	Roof.
			N. 56 38 E.	S. 56 38 W.	1,340	Rails.
			N. 61 16 W.	S. 61 16 E.	1,007	Canoe.
5	38 14 19.41	76 43 20.79	S. 23 07 E.	N. 23 07 W.	704	St. Clement.
			N. 76 27 E.	S. 76 27 W.	451	Roof.
			N. 52 19 W.	S. 52 19 E.	1,288	Canoe.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

CANOE CREEK.

(*Lower St. Clement Bay—Chart No. 25.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 14 56.72	76 43 15.80	S. 14 50 E.	N. 14 50 W.	1,190	Roof.
			S. 75 37 E.	N. 75 37 W.	877	Rails.
			N. 2 00 W.	S. 2 00 E.	729	Woods.
2	38 15 04.44	76 43 45.58	S. 26 15 W.	N. 26 15 E.	815	Canoe.
			S. 37 49 E.	N. 37 49 W.	1,789	Roof.
			N. 58 33 E.	S. 58 33 W.	898	Woods.
3	38 15 14.40	76 43 45.18	S. 19 11 W.	N. 19 11 E.	1,129	Canoe.
			S. 31 54 E.	N. 31 54 W.	2,056	Roof.
			N. 80 00 E.	S. 80 01 W.	768	Woods.
4	38 15 12.82	76 43 37.82	S. 29 13 W.	N. 29 13 E.	1,160	Canoe.
			S. 27 42 E.	N. 27 43 W.	1,915	Roof.
			N. 71 37 E.	S. 71 37 W.	591	Woods.
	Thence from corner No. 4 along the mean low-water line of the shore to corner No. 5, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
5	38 15 13.80	76 43 23.60	S. 42 05 W.	N. 42 05 E.	1,410	Canoe.
			S. 53 06 E.	N. 53 05 W.	1,319	Rails.
			N. 49 55 E.	S. 49 55 W.	237	Woods.
6	38 15 11.94	76 43 10.40	N. 38 05 W.	S. 38 05 E.	274	Woods.
			S. 52 48 W.	N. 52 47 E.	1,627	Canoe.
			S. 44 00 E.	N. 44 00 W.	1,016	Rails.

CHAPEL POINT.

(*Lower St. Clement Bay—Chart No. 25.*)

1	38 14 49.79	76 43 04.26	S. 0 08 W.	N. 0 08 E.	919	Roof.
			N. 88 20 E.	S. 88 20 W.	542	Rails.
			N. 19 06 W.	S. 19 06 E.	1,017	Woods.
2	38 16 05.22	76 42 21.14	N. 24 02 W.	S. 24 02 E.	325	Howards.
			S. 70 30 W.	N. 70 30 E.	813	Shipping.
			S. 37 37 E.	N. 37 37 W.	474	Mansion.
3	38 16 06.13	76 42 16.80	N. 42 55 W.	S. 42 55 E.	364	Howards.
			S. 71 06 W.	N. 71 06 E.	933	Shipping.
			S. 23 13 E.	N. 23 13 W.	443	Mansion.
	Thence from corner No. 3 along the mean low-water line of the shore to corner No. 4, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
4	38 14 50.26	76 42 43.85	N. 42 45 W.	S. 42 45 E.	1,289	Woods.
			S. 82 49 W.	N. 82 48 E.	2,018	Canoe.
			S. 30 14 W.	N. 30 14 E.	1,083	Roof.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

BLUFF WOODS.

(*Lower St. Clement Bay—Chart No. 25.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 15 21.02	76 42 52.78	N. 66 14 E.	S. 66 14 W.	762	Chapel.
			N. 3 30 E.	S. 3 30 W.	1,220	Shipping.
			S. 81 56 W.	N. 81 56 E.	644	Woods.
2	38 15 25.78	76 43 07.50	S. 44 28 W.	N. 44 28 E.	352	Woods.
			N. 82 21 E.	S. 82 21 W.	1,100	Chapel.
			N. 23 52 E.	S. 23 52 W.	1,157	Shipping.
3	38 15 39.00	76 43 08.54	S. 17 25 W.	N. 17 25 E.	730	Woods.
			S. 75 00 E.	N. 75 00 W.	1,156	Chapel.
			N. 38 55 E.	S. 38 55 W.	787	Shipping
	Thence from corner No. 3 along the mean low-water line of the shore to corner No. 4, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
4	38 15 57.17	76 42 49.98	S. 28 33 W.	N. 28 32 E.	1,491	Woods.
			S. 34 20 E.	N. 34 20 W.	1,105	Chapel.
			S. 84 21 E.	N. 84 21 W.	1,062	Mansion.
5	38 16 01.36	76 42 32.60	S. 67 32 E.	N. 67 32 W.	643	Mansion.
			N. 21 55 E.	S. 21 55 W.	460	Howards.
			S. 73 00 W.	N. 73 00 E.	483	Shipping.

MILEYS CREEK.

(*Lower St. Clement Bay—Chart No. 25.*)

1	38 15 57.17	76 42 49.98	S. 28 33 W.	N. 28 32 E.	1,491	Woods.
			S. 34 20 E.	N. 34 20 W.	1,105	Chapel.
			S. 84 21 E.	N. 84 21 W.	1,062	Mansion.
	Thence from corner No. 1 along the mean low-water line of the shore to corner No. 2, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
2	38 16 10.74	76 43 07.94	S. 69 53 E.	N. 69 52 W.	1,634	Mansion.
			N. 84 09 E.	S. 84 09 W.	1,118	Howards.
			N. 7 41 E.	S. 7 41 W.	325	Mileys.
3	38 16 20.27	76 43 06.31	S. 29 08 E.	N. 29 07 W.	891	Shipping.
			N. 75 00 E.	S. 75 00 W.	958	Bank.
			N. 35 54 E.	S. 35 54 W.	1,375	Cecil.
4	38 16 30.80	76 43 12.02	S. 27 20 E.	N. 27 19 W.	1,276	Shipping.
			S. 84 19 E.	N. 84 18 W.	1,083	Bank.
			N. 22 08 E.	S. 22 08 W.	539	Profound.
5	38 16 16.14	76 42 37.82	S. 77 10 E.	N. 77 10 W.	318	Howards.
			N. 23 26 E.	S. 23 26 W.	422	Bank.
			N. 79 35 W.	S. 79 35 E.	770	Mileys.
6	38 16 01.36	76 42 32.60	S. 67 32 E.	N. 67 32 W.	643	Mansion.
			N. 21 55 E.	S. 21 55 W.	460	Howards.
			S. 73 00 W.	N. 73 00 E.	483	Shipping.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

ABELL.

(*Upper St. Clement Bay—Chart No. 25.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 16 29.56	76 42 34.58	N. 55 47 W.	S. 55 47 E.	958	Profound.
			S. 69 38 W.	N. 69 37 E.	900	Mileys.
			S. 51 17 E.	N. 51 17 W.	105	Bank.
2	38 16 31.90	76 42 42.34	N. 51 53 W.	S. 51 53 E.	746	Profound.
			S. 58 23 W.	N. 58 23 E.	748	Mileys.
			S. 63 19 E.	N. 63 19 W.	323	Bank.
3	38 16 39.27	76 42 41.18	S. 33 12 E.	N. 33 12 W.	369	Bank.
			N. 16 15 E.	S. 16 15 W.	493	Cecil.
			N. 71 04 W.	S. 71 04 E.	653	Profound.
4	38 16 41.80	76 42 27.48	N. 30 15 W.	S. 30 15 E.	449	Cecil.
			N. 82 40 W.	S. 82 40 E.	990	Profound.
			S. 54 53 W.	N. 54 52 E.	1,262	Mileys.

Thence from corner No. 4 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

REED POINT.

(*Upper St. Clement Bay—Chart No. 25.*)

1	38 16 51.30	76 42 39.00	N. 49 52 E.	S. 49 52 W.	105	Cecil.
			N. 39 37 W.	S. 39 38 E.	982	Radec.
			S. 73 59 W.	N. 73 59 E.	702	Profound.
2	38 17 14.60	76 42 56.50	S. 79 41 W.	N. 79 41 E.	164	Radec.
			S. 37 12 E.	N. 37 12 W.	901	Cecil.
			N. 73 37 E.	S. 73 37 W.	778	Place.
3	38 17 16.56	76 43 12.40	N. 82 31 E.	S. 82 32 W.	1,181	Place.
			N. 28 00 E.	S. 28 01 W.	1,044	Guest.
			N. 27 19 W.	S. 27 18 E.	450	Cobrums.
4	38 17 37.48	76 42 34.74	N. 67 01 W.	S. 67 01 E.	554	Guest.
			S. 42 43 W.	N. 42 43 E.	1,090	Radec.
			S. 1 17 W.	N. 1 17 E.	1,490	Cecil.
5	38 17 35.58	76 42 27.40	N. 68 19 W.	S. 68 19 E.	759	Guest.
			S. 51 45 W.	N. 51 44 E.	1,190	Radec.
			S. 9 06 W.	N. 9 06 E.	1,447	Cecil.
6	38 17 29.56	76 42 26.20	N. 56 45 W.	S. 56 45 E.	881	Guest.
			S. 61 05 W.	N. 61 05 E.	1,105	Radec.
			S. 12 02 W.	N. 12 02 E.	1,248	Cecil.

Thence from corner No. 6 along the mean low-water line of the shore to corner No. 7, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

REED POINT—Continued.

(*Upper St. Clement Bay—Chart No. 25.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
7	38 17 20.58	76.42 30.10	S. 75 01 W.	N. 75 00 E.	894	Radec.
			S. 9 39 W.	N. 9 39 E.	934	Cecil.
			N. 69 05 E.	S. 69 05 W.	50	Place.
8	38 17 05.20	76 42 21.18	N. 19 31 W.	S. 19 31 E.	571	Place.
			N. 75 21 W.	S. 75 21 E.	1,136	Radec.
			S. 60 02 W.	N. 60 01 E.	1,327	Profound.
	Thence from corner No. 8 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					

GUEST MARSHES.

(*Upper St. Clement Bay—Chart No. 25.*)

1	38 17 31.74	76 43 03.94	S. 75 18 W.	N. 75 18 E.	445	Cobrums.
			S. 3 27 E.	N. 3 27 W.	608	Radec.
			N. 32 55 E.	S. 32 55 W.	488	Guest.
2	38 18 01.78	76 43 10.40	N. 11 09 E.	S. 11 09 W.	517	Stones.
			N. 42 17 W.	S. 42 17 E.	573	Turf.
			S. 54 02 W.	N. 54 02 E.	524	Dynard.
3	38 18 03.38	76 43 01.26	N. 17 38 W.	S. 17 38 E.	475	Stones.
			S. 61 32 W.	N. 61 32 E.	759	Dynard.
			S. 16 29 E.	N. 16 28 W.	685	Guest.
4	38 17 58.58	76 42 52.80	N. 58 03 W.	S. 58 04 E.	1,006	Turf.
			S. 77 22 W.	N. 77 22 E.	914	Dynard.
			S. 3 37 W.	N. 3 37 E.	496	Guest.
5	38 17 50.86	76 42 52.06	N. 47 46 W.	S. 47 47 E.	1,179	Turf.
			N. 86 08 W.	S. 86 08 E.	914	Dynard.
			S. 12 05 W.	N. 12 05 E.	240	Guest.
	Thence from corner No. 5 along the mean low-water line of the shore to corner No. 6, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
6	38 17 37.48	76 42 34.74	N. 67 01 W.	S. 67 01 E.	554	Guest.
			S. 42 43 W.	N. 42 43 E.	1,090	Radec.
			S. 1 17 W.	N. 1 17 E.	1,490	Cecil.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

HARRY JACKS.

(Upper St. Clement Bay—Chart No. 25.)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 17 28.39	76 43 20.15	N. 53 05 E.	S. 53 05 W.	87	Guest.
			N. 38 47 W.	S. 38 47 E.	533	Tomakokin.
			S. 43 25 E.	N. 43 25 W.	680	Radec.
	Thence from corner No. 1 along the mean low-water line of the shore to corner No. 2, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
2	38 17 29.96	76 43 30.00	S. 78 34 E.	N. 78 34 W.	267	Cobrums.
			N. 63 52 E.	S. 63 52 W.	1,067	Guest.
			N. 11 5 W.	S. 11 15 E.	370	Tomakokin.
3	38 17 40.70	76 43 32.71	S. 38 47 E.	N. 38 47 W.	533	Cobrums.
			N. 84 01 E.	S. 84 01 W.	1,036	Guest.
			N. 22 41 E.	S. 22 41 W.	436	Dynard.
	Thence from corner No. 3 along the mean low-water line of the shore to corner No. 4, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
4	38 17 59.40	76 43 23.58	S. 18 03 W.	N. 18 03 E.	240	Dynard.
			S. 56 22 E.	N. 56 22 W.	945	Guest.
			N. 4 04 W.	S. 4 04 E.	506	Turf.
5	38 18 01.78	76 43 10.40	N. 11 09 E.	S. 11 09 W.	517	Stones.
			N. 42 17 W.	S. 42 17 E.	173	Turf.
			S. 54 02 W.	N. 54 02 E.	524	Dynard.
6	38 17 31.74	76 43 03.94	S. 75 18 W.	N. 75 18 E.	445	Cobrums.
			S. 3 27 E.	N. 3 27 W.	608	Radec.
			N. 32 55 E.	S. 32 55 W.	488	Guest.

KEY.

(Upper Wicomico River—Chart No. 26.)

1	38 21 49.83	76 50 31.02	S. 66 37 W.	N. 66 36 E.	1,516	Stoddard.
			S. 14 10 E.	N. 14 10 W.	1,470	Cohouck.
			N. 84 48 E.	S. 84 49 W.	450	Key.
2	38 21 53.40	76 50 55.74	N. 84 01 W.	S. 84 02 E.	1,164	Upper.
			S. 45 34 W.	N. 45 33 E.	1,029	Stoddard.
			S. 85 53 E.	N. 85 53 W.	1,108	Key.
3	38 22 08.99	76 51 08.02	N. 3 01 W.	S. 3 01 E.	865	Barber.
			S. 64 15 W.	N. 64 15 E.	924	Upper.
			S. 67 05 E.	N. 67 04 W.	1,554	Key.
4	38 22 14.18	76 50 40.16	N. 48 43 W.	S. 48 44 E.	1,042	Barber.
			S. 69 52 W.	N. 69 52 E.	1,675	Upper.
			S. 41 33 E.	N. 41 33 W.	1,042	Key.
5	38 22 00.78	76 50 27.60	N. 44 26 W.	S. 44 26 E.	1,598	Barber.
			S. 86 15 W.	N. 86 15 E.	1,909	Upper.
			S. 47 29 E.	N. 47 29 W.	485	Key.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

COHOUCK.

(*Upper Wicomico River—Chart No. 26.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 20 51.98	76 50 58.86	N. 64 26 E.	S. 64 26 W.	1,218	Cohouck.
			N. 60 46 W.	S. 60 46 E.	1,004	Hayden.
			S. 72 34 W.	N. 72 34 E.	1,368	Burr.
	Thence along county boundary, as delineated on chart No. 26, to corner No. 2.					
2	38 21 10.18	76 50 51.08	S. 84 22 E.	N. 84 22 W.	897	Cohouck.
			N. 49 23 W.	S. 49 24 E.	1,131	Stoddard.
			S. 83 30 W.	N. 83 29 E.	1,090	Hayden.
3	38 21 23.59	76 50 31.46	S. 34 29 E.	N. 34 29 W.	655	Cohouck.
			N. 26 27 E.	S. 26 28 W.	1,033	Key.
			N. 78 22 W.	S. 78 22 E.	1,409	Stoddard.
4	38 21 16.84	76 50 24.36	S. 30 18 E.	N. 30 18 W.	362	Cohouck.
			N. 13 17 E.	S. 13 17 W.	1,187	Key.
			N. 71 56 W.	S. 71 56 E.	1,649	Stoddard.
5	38 20 52.00	76 50 29.42	N. 31 08 E.	S. 31 08 W.	613	Cohouck.
			N. 73 33 W.	S. 73 33 E.	1,728	Hayden.
			S. 2 27 W.	N. 2 27 E.	1,317	Fact.

CHAPTICO LUMPS.

(*Upper Wicomico River—Chart No. 26.*)

1	38 20 20.70	76 51 13.00	N. 55 17 W.	S. 55 17 E.	1,132	Burr.
			S. 66 14 W.	N. 66 13 E.	1,660	Bowman.
			S. 76 42 E.	N. 76 42 W.	1,132	Fact.
	Thence along county boundary, as delineated on chart No. 26, to corner No. 2.					
2	38 20 51.98	76 50 58.86	N. 64 26 E.	S. 64 26 W.	1,218	Cohouck.
			N. 60 46 W.	S. 60 46 E.	1,004	Hayden.
			S. 72 34 W.	N. 72 34 E.	1,368	Burr.
3	38 20 26.26	76 50 23.58	N. 6 38 E.	S. 6 38 W.	1,402	Cohouck.
			N. 78 29 W.	S. 78 29 E.	2,289	Burr.
			S. 25 19 W.	N. 25 19 E.	494	Fact.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

MILLS EAST.

(Upper Wicomico River—Chart No. 26.)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 20 00.00	76 51 11.88	N. 88 54 W.	S. 88 55 E.	1,548	Bowman.
			S. 15 50 W.	N. 15 50 E.	1,392	Eedling.
			N. 67 44 E.	S. 67 44 W.	1,157	Fact.
	Thence along county boundary, as delineated on chart No. 26, to corner No. 2.					
2	38 20 20.70	76 51 13.00	N. 55 17 W.	S. 55 17 E.	1,132	Burr.
			S. 66 14 W.	N. 66 13 E.	1,660	Bowman.
			S. 76 42 E.	N. 76 42 W.	1,132	Fact.
3	38 20 26.26	76 50 23.58	N. 6 38 E.	S. 6 38 W.	1,402	Cohouck.
			N. 78 29 W.	S. 78 29 E.	2,289	Burr.
			S. 25 19 W.	N. 25 19 E.	494	Fact.
4	38 20 07.08	76 50 45.50	S. 84 40 W.	N. 84 39 E.	2,259	Bowman.
			S. 34 24 W.	N. 34 24 E.	1,911	Eedling.
			N. 61 47 E.	S. 61 47 W.	421	Fact.

RUSSELL.

(Middle Wicomico River—Chart No. 26.)

1	38 19 04.42	76 50 28.14	N. 78 10 E.	S. 78 11 W.	961	Farr.
			N. 2 14 W.	S. 2 14 E.	2,313	Fact.
			S. 77 22 W.	N. 77 22 E.	1,049	Gust.
	Thence along county boundary, as delineated on chart No. 26, to corner No. 2.					
2	38 20 00.00	76 51 11.88	N. 88 54 W.	S. 88 55 E.	1,548	Bowman.
			S. 15 50 W.	N. 15 50 E.	1,392	Eedling.
			N. 67 44 E.	S. 67 44 W.	1,157	Fact.
3	38 20 07.08	76 50 45.50	S. 84 40 W.	N. 84 39 E.	2,259	Bowman.
			S. 34 24 W.	N. 34 24 E.	1,911	Eedling.
			N. 61 47 E.	S. 61 47 W.	421	Fact.
4	38 19 09.76	76 49 56.97	N. 81 38 E.	S. 81 38 W.	114	Farr.
			N. 23 18 W.	S. 23 19 E.	2,320	Fact.
			S. 77 32 W.	N. 77 31 E.	1,895	Gust.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

MANAHOWIC CREEK.

(*Middle Wicomico River—Chart No. 26.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 18 24.45	76 50 16.82	S. 44 40 W.	N. 44 39 E.	1,189	Hedney.
			S. 68 42 E.	N. 68 42 W.	1,299	Lyon.
			N. 22 31 E.	S. 22 31 W.	1,672	Farr.
	Thence along county boundary, as delineated on chart No. 26, to corner No. 2.					
2	38 19 04.42	76 50 28.14	N. 78 10 E.	S. 78 11 W.	961	Farr.
			N. 2 14 W.	S. 2 14 E.	2,313	Fact.
			S. 77 22 W.	N. 77 22 E.	1,049	Gust.
3	38 19 09.76	76 49 56.97	N. 81 38 E.	S. 81 38 W.	114	Farr.
			N. 23 18 W.	S. 23 19 E.	2,320	Fact.
			S. 77 32 W.	N. 77 31 E.	1,895	Gust.
4	38 18 29.84	76 49 58.88	S. 51 57 W.	N. 51 56 E.	1,667	Hedney.
			S. 48 19 E.	N. 48 18 W.	982	Lyon.
			N. 6 50 E.	S. 6 50 W.	1,372	Farr.

BRAMLEIGH CREEK.

(*Middle Wicomico River—Chart No. 26.*)

1	38 17 26.40	76 49 42.82	S. 68 36 E.	N. 68 35 W.	1,357	Weiss.
			N. 11 40 E.	S. 11 40 W.	1,520	Lyon.
			S. 80 01 W.	N. 80 00 E.	1,137	Charles.
	Thence along county boundary, as delineated on chart No. 26, to corner No. 2.					
2	38 17 55.98	76 50 08.16	N. 63 31 E.	S. 63 32 W.	1,095	Lyon.
			N. 83 52 W.	S. 83 52 E.	1,072	Hedney.
			S. 20 30 W.	N. 20 30 E.	1,275	Charles.
	Thence along county boundary, as delineated on chart No. 26, to corner No. 3.					
3	38 18 24.45	76 50 16.82	S. 44 40 W.	N. 44 39 E.	1,189	Hedney.
			S. 68 42 E.	N. 68 42 W.	1,299	Lyon.
			N. 22 31 E.	S. 22 31 W.	1,672	Farr.
4	38 18 29.84	76 49 58.88	S. 51 57 W.	N. 51 56 E.	1,667	Hedney.
			S. 48 19 E.	N. 48 18 W.	982	Lyon.
			N. 6 50 E.	S. 6 50 W.	1,372	Farr.
5	38 18 14.64	76 49 36.28	N. 13 07 W.	S. 13 07 E.	1,926	Farr.
			S. 74 57 W.	N. 74 56 E.	1,980	Hedney.
			S. 43 22 E.	N. 43 22 W.	194	Lyon.
6	38 17 45.78	76 49 28.12	N. 5 45 W.	S. 5 45 E.	837	Lyon.
			S. 60 37 W.	N. 60 36 E.	1,734	Charles.
			S. 37 14 E.	N. 37 13 W.	1,444	Weiss.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

WHITE POINT.

(*Lower Wicomico River—Chart No. 26.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 16 34.94	76 49 13.42	S. 50 45 E.	N. 50 45 W.	1,442	Prec.
			N. 67 32 E.	S. 67 32 W.	1,791	Blakistone.
			N. 21 15 E.	S. 21 15 W.	1,330	Weiss.
	Thence along county boundary, as delineated on chart No. 26, to corner No. 2.					
2	38 16 55.66	76 49 32.82	N. 61 31 E.	S. 61 32 W.	1,133	Weiss.
			N. 58 48 W.	S. 58 49 E.	1,621	Charles.
			S. 37 53 W.	N. 37 53 E.	1,294	Hard.
	Thence along county boundary, as delineated on chart No. 26, to corner No. 3.					
3	38 17 26.40	76 49 42.82	S. 68 36 E.	N. 68 35 W.	1,357	Weiss.
			N. 11 40 E.	S. 11 40 W.	1,520	Lyon.
			S. 80 01 W.	N. 80 00 E.	1,137	Charles.
4	38 17 15.96	76 49 12.16	N. 85 26 W.	S. 85 26 E.	1,941	Charles.
			S. 38 14 W.	N. 38 13 E.	2,172	Hard.
			S. 72 17 E.	N. 72 17 W.	471	Weiss.
5	38 16 52.52	76 49 11.78	N. 34 11 E.	S. 34 11 W.	780	Weiss.
			N. 64 05 W.	S. 64 06 E.	2,157	Charles.
			S. 55 52 W.	N. 55 52 E.	1,636	Hard.
6	38, 16 51.32	76 48 46.98	S. 15 44 E.	N. 15 44 W.	1,520	Prec.
			N. 82 06 E.	S. 82 06 W.	961	Blakistone.
			N. 17 47 W.	S. 17 47 E.	722	Weiss.

WHITE POINT HOLLOW.

(*Lower Wicomico River—Chart No. 26.*)

1	38 17 00.86	76 48 32.50	N. 58 51 W.	S. 58 52 E.	708	Weiss.
			S. 0 52 E.	N. 0 52 W.	1,785	Prec.
			S. 71 32 E.	N. 71 31 W.	598	Blakistone.
2	38 17 03.98	76 48 47.40	S. 12 37 E.	N. 12 37 W.	1,937	Prec.
			S. 72 59 E.	N. 72 59 W.	1,007	Blakistone.
			N. 38 47 W.	S. 38 47 E.	335	Weiss.
3	38 17 04.46	76 49 03.40	S. 50 06 W.	N. 50 05 E.	2,056	Hard.
			S. 24 00 E.	N. 24 00 W.	2,087	Prec.
			N. 41 26 E.	S. 41 26 W.	326	Weiss.
4	38 17 06.82	76 49 03.16	S. 48 33 W.	N. 48 33 E.	2,112	Hard.
			S. 22 59 E.	N. 22 59 W.	2,157	Prec.
			N. 51 47 E.	S. 51 47 W.	267	Weiss.
5	38 17 06.90	76 48 44.32	N. 60 53 W.	S. 60 54 E.	334	Weiss.
			S. 9 44 E.	N. 9 44 W.	2,018	Prec.
			S. 65 58 E.	N. 65 57 W.	965	Blakistone.
6	38 17 03.98	76 48 31.34	N. 67 43 W.	S. 67 43 E.	688	Weiss.
			S. 0 07 W.	N. 0 07 E.	1,891	Prec.
			S. 61 13 E.	N. 61 13 W.	612	Blakistone.

BOUNDARIES OF NATURAL OYSTER BEDS—continued.

BLAKISTONE.

(Lower Wicomico River—Chart No. 26.)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 16 27.74	76 48 20.84	N. 15 33 E.	S. 15 33 W.	962	Blakistone.
			N. 31 41 W.	S. 31 42 E.	1,742	Weiss.
			S. 22 57 W.	N. 22 57 E.	725	Prec.
2	38 16 29.24	76 48 24.58	N. 22 08 E.	S. 22 09 W.	947	Blakistone.
			N. 29 40 W.	S. 29 41 E.	1,648	Weiss.
			S. 14 21 W.	N. 14 21 E.	740	Prec.
3	38 16 45.88	76 48 22.82	N. 44 33 E.	S. 44 33 W.	443	Blakistone.
			N. 44 44 W.	S. 44 44 E.	1,226	Weiss.
			S. 10 13 W.	N. 10 13 E.	1,300	Prec.
4	38 16 53.58	76 48 16.26	N. 67 34 E.	S. 67 34 W.	146	Blakistone.
			N. 59 29 W.	S. 59 29 E.	1,204	Weiss.
			S. 14 44 W.	N. 14 43 E.	1,594	Prec.
5	38 16 36.50	76 48 16.40	N. 12 27 E.	S. 12 28 W.	646	Blakistone.
			N. 41 02 W.	S. 41 03 E.	1,574	Weiss.
			S. 22 36 W.	N. 22 35 E.	1,043	Prec.

BLUFF POINT.

(Lower Wicomico River—Chart No. 26.)

1	38 15 19.22	76 48 48.98	S. 39 29 W.	N. 39 29 E.	2,005	Cobb Point Bar Light.
			S. 15 37 E.	N. 15 37 W.	515	St. Margaret 2.
			N. 15 49 E.	S. 15 49 W.	1,707	Prec.
2	38 15 20.00	76 49 24.36	N. 71 55 W.	S. 71 55 E.	1,589	Corner.
			S. 11 59 W.	N. 11 59 E.	1,609	Cobb Point Bar Light.
			S. 64 10 E.	N. 64 10 W.	1,200	St. Margaret 2.
3	38 16 34.94	76 49 13.42	S. 50 45 E.	N. 50 45 W.	1,442	Prec.
			N. 67 32 E.	S. 67 32 W.	1,791	Blakistone.
			N. 21 15 E.	S. 21 15 W.	1,330	Weiss.
4	38 16 51.32	76 48 46.98	S. 15 44 E.	N. 15 44 W.	1,520	Prec.
			N. 82 06 E.	S. 82 06 W.	961	Blakistone.
			N. 17 47 W.	S. 17 47 E.	722	Weiss.
5	38 16 20.28	76 48 28.06	N. 20 52 E.	S. 20 52 W.	1,262	Blakistone.
			N. 22 39 W.	S. 22 39 E.	1,879	Weiss.
			S. 12 19 W.	N. 12 19 E.	426	Prec.
6	38 16 09.07	76 48 41.46	S. 81 45 E.	N. 81 45 W.	268	Prec.
			N. 27 22 E.	S. 27 22 W.	1,753	Blakistone.
			N. 75 43 W.	S. 75 44 E.	2,229	Hard.
7	38 15 43.80	76 48 27.89	N. 6 41 W.	S. 6 41 E.	819	Prec.
			S. 84 09 W.	N. 84 08 E.	3,028	Corner.
			S. 17 40 W.	N. 17 40 E.	1,391	St. Margaret 2.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

MOUTH OF RIVER.

(*Lower Wicomico River—Chart No. 26.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 15 02.18	76 49 29.62	N. 51 20 W.	S. 51 21 E.	1,752	Corner.
			S. 11 18 W.	N. 11 18 E.	992	Cobb Point Bar Light.
			N. 86 20 E.	S. 86 20 W.	1,223	St. Margaret 2.
2	38 15 20.20	76 49 35.10	N. 68 20 W.	S. 68 21 E.	1,318	Corner.
			S. 1 46 W.	N. 1 46 E.	1,581	Cobb Point Bar Light.
			S. 68 48 E.	N. 68 48 W.	1,464	St. Margaret 2.
3	38 15 20.00	76 49 24.36	N. 71 55 W.	S. 71 55 E.	1,589	Corner.
			S. 11 59 W.	N. 11 59 E.	1,609	Cobb Point Bar Light.
			S. 64 10 E.	N. 64 10 W.	1,200	St. Margaret 2.
4	38 15 19.22	76 48 48.98	S. 39 29 W.	N. 39 29 E.	2,005	Cobb Point Bar Light.
			S. 15 37 E.	N. 15 37 W.	515	St. Margaret 2.
			N. 15 49 E.	S. 15 49 W.	1,707	Prec.
5	38 15 06.02	76 49 00.28	N. 65 47 W.	S. 65 48 E.	2,353	Corner.
			S. 41 29 W.	N. 41 29 E.	1,472	Cobb Point Bar Light.
			S. 83 21 E.	N. 83 21 W.	442	St. Margaret 2.

ST. MARGARET.

(*Lower Wicomico River—Chart No. 26.*)

1	38 15 08.20	76 48 23.66	N. 5 54 W.	S. 5 54 E.	2,024	Prec.
			S. 76 52 W.	N. 76 51 E.	549	St. Margaret 2.
			S. 37 39 E.	N. 37 38 W.	2,124	St. Catherine.
2	38 15 14.19	76 48 38.95	N. 6 15 E.	S. 6 15 W.	1,823	Prec.
			S. 48 13 W.	N. 48 13 E.	2,068	Cobb Point Bar Light.
			S. 21 20 W.	N. 21 20 E.	351	St. Margaret 2.
3	38 15 17.70	76 48 36.38	N. 4 24 E.	S. 4 24 W.	1,698	Prec.
			S. 47 06 W.	N. 47 06 E.	2,198	Cobb Point Bar Light.
			S. 23 48 W.	N. 23 48 E.	487	St. Margaret 2.
4	38 15 11.36	76 48 21.76	N. 7 43 W.	S. 7 43 E.	1,925	Prec.
			S. 68 26 W.	N. 68 25 E.	629	St. Margaret 2.
			S. 34 53 E.	N. 34 52 W.	2,181	St. Catherine.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

BULLOCK.

(Lower Wicomico River—Chart No. 26.)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 14 29.80	76 48 29.04	S. 74 58 E.	N. 74 57 W.	1,492	St. Catherine.
			N. 18 30 W.	S. 18 30 E.	1,234	St. Margaret 2.
			N. 86 13 W.	S. 86 14 E.	1,810	Cobb Point Bar Light.
2	38 14 31.64	76 49 04.42	S. 79 19 E.	N. 79 18 W.	2,423	St. Catherine.
			N. 26 22 E.	S. 26 23 W.	1,237	St. Margaret 2.
			N. 86 14 W.	S. 86 14 E.	866	Cobb Point Bar Light.
3	38 15 02.18	76 49 29.62	N. 51 20 W.	S. 51 21 E.	1,752	Corner.
			S. 11 18 W.	N. 11 18 E.	992	Cobb Point Bar Light.
			N. 86 20 E.	S. 86 20 W.	1,223	St. Margaret 2.
4	38 15 06.02	76 49 00.28	N. 65 47 W.	S. 65 48 E.	2,353	Corner.
			S. 41 29 W.	N. 41 29 E.	1,472	Cobb Point Bar Light.
			S. 83 21 E.	N. 83 21 W.	442	St. Margaret 2.

BULLOCK ISLAND.

(St. Catherine Sound—Chart No. 26.)

1	38 14 46.98	76 47 53.82	N. 66 01 W.	S. 66 02 E.	1,453	St. Margaret 2.
			S. 27 32 E.	N. 27 32 W.	1,089	St. Catherine.
			S. 85 01 E.	N. 85 01 W.	1,210	Sound.
2	38 14 48.06	76 47 59.66	N. 64 42 W.	S. 64 42 E.	1,297	St. Margaret 2.
			S. 33 19 E.	N. 33 19 W.	1,200	St. Catherine.
			S. 84 02 E.	N. 84 01 W.	1,368	Sound.
3	38 14 53.00	76 47 58.22	N. 72 15 W.	S. 72 15 E.	1,272	St. Margaret 2.
			S. 27 54 E.	N. 27 54 W.	1,323	St. Catherine.
			S. 76 51 E.	N. 76 52 W.	1,357	Sound.
4	38 14 52.00	76 47 52.56	N. 72 48 W.	S. 72 48 E.	1,425	St. Margaret 2.
			S. 22 30 E.	N. 22 29 W.	1,229	St. Catherine.
			S. 76 47 E.	N. 76 46 W.	1,203	Sound.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

ST. CATHERINE.

(*St. Catherine Sound—Chart No. 26.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 14 26.10	76 46 59.42	N. 79 35 E.	S. 79 35 W.	534	Bailey.
			N. 22 00 W.	S. 22 00 E.	645	Sound.
			S. 74 27 W.	N. 74 27 E.	979	St. Catherine.
2	38 14 34.58	76 47 28.38	S. 17 30 W.	N. 17 30 E.	575	St. Catherine.
			S. 81 40 E.	N. 81 40 W.	1,309	Bailey.
			N. 59 25 E.	S. 59 25 W.	613	Sound.
3	38 14 41.03	76 47 23.90	S. 20 52 W.	N. 20 52 E.	819	St. Catherine.
			S. 70 54 E.	N. 70 54 W.	1,245	Bailey.
			N. 76 58 E.	S. 76 58 W.	420	Sound.
4	38 14 30.16	76 46 57.22	S. 85 02 E.	N. 85 02 W.	468	Bailey.
			N. 33 04 W.	S. 33 04 E.	550	Sound.
			S. 68 16 W.	N. 68 16 E.	1,078	St. Catherine.

HACKLEY CREEK.

(*St. Catherine Sound—Chart No. 26.*)

1	38 14 01.84	76 47 06.90	S. 64 45 E.	N. 64 45 W.	574	Waterloo.
			N. 38 21 E.	S. 38 22 W.	1,166	Bailey.
			N. 53 15 W.	S. 53 15 E.	928	St. Catherine.
2	38 14 11.23	76 47 18.66	S. 55 59 E.	N. 55 59 W.	1,004	Waterloo.
			N. 60 01 E.	S. 60 02 W.	1,196	Bailey.
			N. 61 00 W.	S. 61 00 E.	493	St. Catherine.
3	38 14 05.18	76 46 52.86	S. 22 09 E.	N. 22 09 W.	395	Waterloo.
			N. 23 36 E.	S. 23 36 W.	875	Bailey.
			N. 68 22 W.	S. 68 23 E.	1,202	St. Catherine.
4	38 14 02.36	76 46 53.36	S. 31 13 E.	N. 31 13 W.	306	Waterloo.
			N. 22 05 E.	S. 22 05 W.	968	Bailey.
			N. 64 01 W.	S. 64 02 E.	1,228	St. Catherine.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

WATERLOO.

(*St. Catherine Sound—Chart No. 26.*)

Corner of bar.	Latitude.	Longitude.	True bearing. Forward.	True bearing. Back.	Distance.	U. S. C. & G. S. triangulation station.
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 13 40.36	76 46 53.82	N. 19 38 E.	S. 19 38 W.	509	Waterloo.
			N. 10 21 W.	S. 10 21 E.	2,175	Sound.
			N. 40 28 W.	S. 40 29 E.	1,683	St. Catherine.
2	38 13 41.20	76 47 06.04	N. 47 43 E.	S. 47 43 W.	670	Waterloo.
			N. 1 47 W.	S. 1 47 E.	2,113	Sound.
			N. 31 30 W.	S. 31 30 E.	1,468	St. Catherine.
3	38 13 48.20	76 46 58.08	N. 52 53 E.	S. 52 53 W.	357	Waterloo.
			N. 8 25 W.	S. 8 25 E.	1,896	Sound.
			N. 43 56 W.	S. 43 57 E.	1,411	St. Catherine.
4	38 13 59.74	76 47 09.87	S. 73 47 E.	N. 73 46 W.	623	Waterloo.
			N. 39 10 E.	S. 39 10 W.	1,271	Bailey.
			N. 46 43 W.	S. 46 43 E.	913	St. Catherine.
5	38 14 01.84	76 47 06.90	S. 64 45 E.	N. 64 45 W.	574	Waterloo.
			N. 38 21 E.	S. 38 22 W.	1,166	Bailey.
			N. 53 15 W.	S. 53 15 E.	928	St. Catherine.
6	38 13 50.24	76 46 52.30	N. 41 45 E.	S. 41 45 W.	196	Waterloo.
			N. 14 24 E.	S. 14 24 W.	1,347	Bailey.
			N. 50 05 W.	S. 50 06 E.	1,476	St. Catherine.

SILVER SPRING.

(*St. Catherine Sound—Chart No. 26.*)

1	38 13 50.64	76 47 17.50	N. 80 35 E.	S. 80 35 W.	811	Waterloo.
			N. 37 50 E.	S. 37 50 W.	1,636	Bailey.
			N. 26 21 W.	S. 26 21 E.	1,041	St. Catherine.
2	38 14 03.76	76 47 22.22	S. 71 31 E.	N. 71 31 W.	977	Waterloo.
			N. 53 05 E.	S. 53 06 W.	1,415	Bailey.
			N. 34 27 W.	S. 34 27 E.	595	St. Catherine.
3	38 13 50.74	76 47 03.78	N. 73 27 E.	S. 73 28 W.	455	Waterloo.
			N. 26 26 E.	S. 26 26 W.	1,439	Bailey.
			N. 41 39 W.	S. 41 39 E.	1,245	St. Catherine.

APPENDIXES.

Appendix A.—LAWS RELATING TO THE COOPERATION OF THE COAST AND GEODETIC SURVEY AND BUREAU OF FISHERIES WITH THE MARYLAND SHELL FISH COMMISSION.

The work of the Coast and Geodetic Survey and of the Bureau of Fisheries, in cooperation with the Maryland Shell Fish Commission, in surveying the oyster bars, establishing permanent landmarks at triangulation stations, and preparing for publication the necessary charts and technical and legal descriptions of boundaries and landmarks shown on these charts, has been executed in compliance with a request from the governor of the State of Maryland to the Secretary of Commerce and Labor, and by the authority of the following laws of the United States and Maryland:

[Act of Congress approved May 26, 1906.]

AN ACT To authorize the Secretary of Commerce and Labor to cooperate, through the Bureau of the Coast and Geodetic Survey and the Bureau of Fisheries, with the shellfish commissioners of the State of Maryland in making surveys of the natural oyster beds, bars, and rocks in the waters within the State of Maryland.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of Commerce and Labor be, and he is hereby, authorized and directed, upon the request of the governor of the State of Maryland, to designate such officers, experts, and employees of the Bureau of the Coast and Geodetic Survey and of the Bureau of Fisheries as may be necessary to cooperate with the Maryland State board of shellfish commissioners in making a survey of and locating the natural oyster beds, bars, and rocks in the waters within the State of Maryland; and the Secretary of Commerce and Labor is hereby authorized and directed to furnish to the officers, experts, and employees of said Bureaus so detailed as aforesaid such instruments, appliances, and steam launches as may be necessary to make the survey aforesaid; and the Secretary of Commerce and Labor is hereby authorized to have made in the Bureau of the Coast and Geodetic Survey all the plats necessary to show the results of the aforesaid survey and the locations of the said natural oyster beds, bars, and rocks in the waters within the State of Maryland, and to furnish to the board of shellfish commissioners of the State of Maryland such copies as may be necessary, and for this purpose to employ, in the District of Columbia and elsewhere, such technically qualified persons as may be necessary to carry out the purpose of this act.

Sec. 2. That the Secretary of Commerce and Labor is hereby further authorized to have erected or constructed by the officers so detailed as aforesaid, while making such survey, such structures as may be necessary to mark the points of triangulation, so that the same may be used for such future work of the Coast and Geodetic Survey as the said Bureau may be hereafter required to perform in prosecuting the Government coast survey of the navigable waters of the United States located within the State of Maryland.

* * * * * * *

Sec. 4. That this act shall take effect from the date of its passage.

[Act of Congress approved June 30, 1906.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and seven, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and seven, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including the expenditures authorized under Public Act Numbered One hundred and eighty-one, approved May twenty-sixth, nineteen hundred and six, and contingent expenses incident thereto, five thousand dollars, together with the unexpended balance under this appropriation for nineteen hundred and six and prior years which is hereby reappropriated and made available on this account for the fiscal year nineteen hundred and seven. * * *

[Act of Congress approved March 4, 1907.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and eight, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and eight, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, to be immediately available and to continue available until expended, twenty-five thousand dollars. * * *

[Act of Congress approved May 27, 1908.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and nine, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and nine, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, which expenses, including cost of plats and charts, shall not exceed fifteen thousand dollars in any one year, to be immediately available, twenty thousand dollars.

[Act of Congress approved March 4, 1909.]

AN ACT Making appropriation for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and ten, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and ten, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, which expenses, including cost of plats and charts, shall not exceed fifteen thousand dollars in any one year, to be immediately available, twenty thousand dollars.

[Act of Congress approved June 25, 1910.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and eleven, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and eleven, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, to be immediately available fifteen thousand dollars.

[Act of Congress approved March 4, 1911.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and twelve, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and twelve, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, to be immediately available, thirteen thousand dollars. * * *

[Act of the Legislature of Maryland approved April 2, 1906.]

AN ACT To establish and promote the industry of oyster culture in Maryland, to define and mark natural oyster beds, bars, and rocks lying under the waters of this State, to prescribe penalties for the infringement of the provisions of this Act, and * * *.

SECTION 1. *Be it enacted by the General Assembly of Maryland*, That the following sections be, and they are hereby, added to article 72 of the Code of Public General Laws, title "Oysters." * * *

SEC. 86. The Board of Shell Fish Commissioners shall, as soon as practicable after the passage of this Act, cause to be made a true and accurate survey of the natural oyster beds, bars and rocks of this State, said survey to be made with reference to fixed and permanent objects on the shore, giving courses and distances, to be fully described and set out in a written report of said survey, as hereinafter required. A true and accurate delineation of the same shall be made on copies of published maps and charts of the United States coast and geodetic survey, which said copies shall be filed in the office of the said commissioners in the city of Annapolis, and the said commissioners shall further cause to be delineated upon copies of the published maps and charts of the United States coast and geodetic survey, of the largest scale, one copy for each of the counties of this State in the waters of which there are natural oyster beds, bars and rocks, all natural beds, bars and rocks lying within the waters of such county, which maps shall be filed in the offices of the clerks of the Circuit Court for the respective counties wherein the grounds so designated may lie. * * *

SEC. 87. The Governor of this State is hereby requested to ask the assistance of the United States coast and geodetic survey, and of the United States Fish Commissioner, to aid in the carrying out of the provisions of the preceding section.

* * * * * * * *

SEC. 89. As soon as practicable after the first day of April, 1906, the said commissioners shall organize, and shall at once proceed, with the assistance of such person or persons as may be detailed by the United States coast and geodetic survey and the United States Fish Commissioner, to aid them in their work, and of such persons as may be appointed under the preceding section, to have laid out, surveyed and designated on the said charts, the natural beds and bars, and shall cause to be marked and defined as accurately as practicable the limits and boundaries of the natural beds, bars, and rocks as established by said survey, and they shall take true and accurate notes of said survey in writing, and make an accurate report of said survey, setting forth such a description of landmarks as may be necessary to enable the said board, or their successors, to find and ascertain the boundary lines of the said natural oyster beds, bars and rocks, as shown by a delineation on the maps and charts provided in this Act; said report shall be completed and filed in the office of the board in the city of Annapolis within ninety days after the completion of the survey of any county. Said commissioners shall cause the same to be published in pamphlet form, and transmit copies of the said to the Clerks of the Circuit court for the respective counties, where the charts have been filed or directed to be filed as hereinafter provided; the said report to be filed by the clerks of the several counties in a book kept for that purpose. And the said survey and report, when filed, subject to the right of appeal hereafter provided for in this Act, shall be taken in all of the courts of this State as conclusive evidence of the boundaries and limits of all natural oyster beds, bars and rocks, lying within the waters of the county wherein such survey and report are filed, and shall be construed to mean in all of the said courts that there are no natural oyster beds, bars or rocks lying within the waters of the counties wherein such report and survey are filed other than those embraced in the survey authorized by this Act, and that all areas of the Chesapeake Bay and its tributaries within the State of Maryland, not shown in the survey to be natural oyster beds, bars or rocks shall be construed in all the courts of the State to be barren bottoms and

open for disposal by the State for the purpose of private planting or propagation of oysters thereon under the provisions of this Act; provided, that the said survey and report shall not be construed as to affect in any manner the holdings by citizens of this State in any lot which may have been appropriated or taken up under the laws of this State prior to the approval of this Act.

The law of the State of Maryland, passed March 9, 1842, authorizing officers of the United States Coast and Geodetic Survey to enter upon the lands within the State limits for the purposes of the survey, is as follows:

AN ACT Concerning the Survey of the Coast of Maryland.

SECTION 1. *Be it enacted by the General Assembly of Maryland,* That it shall and may be lawful for any person or persons employed under and by virtue of an act of the Congress of the United States, * * * at any time hereafter to enter upon lands within this State for the purpose of exploring, surveying, triangulating, or leveling, or doing any other matter or thing which may be necessary to effect the objects of said act, and to erect any works, stations, buildings, or appendages requisite for that purpose, doing no unnecessary injury to private or other property.

SEC. 2.[1] *And be it enacted,* That in case the person or persons employed under the act of Congress aforesaid, can not agree with the owners or possessors of the land so entered upon and used as to the amount of damage done thereto by reason of the removal of fences, cutting of trees or injury to the crop or crops growing on the same, it shall and may be lawful for the said parties or either of them to apply to the chief justice for the time being or one of the associate judges of the judicial district in which such land may be situated, who shall thereupon appoint three disinterested and judicious freeholders, residents of the same judicial district, to proceed with as much despatch as possible to the examination of the matter in question, and the faithful assessment of the damages sustained by the owners or possessors aforesaid, and the said freeholders or a majority of them, having first taken and subscribed an oath or affirmation before the chief or associate justice aforesaid or other person duly authorized to administer the same, that they will well and truly examine and assess as aforesaid, and having given five days' notice to both parties of the time of their meeting, shall proceed to the spot, and then and there upon their own view and if required, upon the evidence of witnesses (to be by them sworn or affirmed and examined), shall assess the said damages, and shall afterward make report thereof and of their proceedings in writing under their hands and seals and file the same within five days thereafter in the office of the clerk of the county in which the land aforesaid is situated, subject to an appeal by either party to the county court of the said county within ten days after filing as aforesaid, and the said report so made as aforesaid if no appeal as aforesaid be taken, shall be held to be final and conclusive as between the said parties, and the amount so assessed and reported shall be paid to the said owners or possessors of the land so damaged within twenty days after the filing of said report, and the said chief or associate justice as aforesaid, shall have authority to tax and allow upon the filing of said report, such costs, fees and expenses to the said freeholders for the performance of their duty as he shall think equitable and just, which allowance shall be paid by the person or persons employed under the act of congress aforesaid, within the time last above limited, but if an appeal as aforesaid be taken, the case shall be set down for hearing at the first term of county court aforesaid, ensuing upon and after appeal, and it shall be lawful for either party immediately after the entry of such appeal, to take out summons for such witnesses as may be necessary to be examined upon the hearing aforesaid, and the said court shall have power in its discretion to award costs against which ever the final judgment shall be entered, and such appeal at the option of either party may and shall be heard before and the damage assessed by a jury of twelve men to be taken from the regular panel and elected as in other cases.

SEC. 3. *And be it enacted,* That if any person or persons shall wilfully injure or deface or remove any signal, monument or building or any appendage thereto, erected, used or constructed under and by virtue of the act of congress aforesaid, such person or persons so offending shall severally forfeit and pay the sum of fifty dollars with costs of suit to be sued for and recovered by any person who shall first prosecute the same before any justice of the peace of the county where the person so offending may reside, and shall also be liable to pay the amount of damages thereby sustained, to be recovered with costs of suit in an action on the case, in the name and for the use of the United States of America, in any court of competent jurisdiction.

[1] Under the rulings of the Comptroller of the Treasury no damages can be collected except through the United States Court of Claims unless an agreement has been made in advance.

Appendix B.—THE HAMAN OYSTER CULTURE LAW.

[Extract from Second Report of Shell Fish Commission.]

OBJECT.

"The legislature in placing chapter 711 of the acts of 1906, better known as the Haman Oyster Culture Law, upon the statute books of Maryland, had a twofold object in view:

1. To *encourage* an industry in oyster culture upon the *barren bottoms* beneath the tidewaters of the State.

2. To *prevent* the leasing of *natural oyster bars* for the purpose of oyster culture."

SURVEY.

"To make the leasing of barren bottoms possible and the leasing of natural bars impossible, provision was made for a survey of the natural bars for the purpose of accurately locating and marking the same. It was definitely provided that no barren bottoms should be leased in any part of the State until the natural bars of that region had been surveyed, chartered, and marked with buoys."

Definition of a Natural Oyster Bar.

NATURAL BAR NOT DEFINED.

"The Shell Fish Commission is instructed by section 90 of the Haman Oyster Culture Law to exercise its judgment liberally in favor of the natural bars when surveying, charting and buoying them, but other than this the Commission is uninstructed in this important matter. The responsibility of defining a natural bar is placed upon the commission."

DIVERSITY OF OPINION.

"No definition of a natural oyster bar could be formulated by any man or body of men which would meet with the approval of all parties concerned. Oystermen, as a rule, hold that all bottoms where oysters grow or have grown naturally even though now practically barren of oysters should be considered natural bars. Other citizens of the State who are not directly interested in the oyster business, but interested in the oyster industry from the standpoint of revenue, hold, as a rule, that no bottoms should be excluded from leasing for oyster culture which, by methods known to oyster culturists, may be made to yield a greater number of oysters than they now produce."

"It should be evident to every one that neither of these definitions could be adopted by the Commission as a working basis for determining which of the grounds surveyed are natural oyster bars."

THE GOLDSBOROUGH DEFINITION.

The definition of a natural oyster bar which very nearly approaches a reasonable and satisfactory compromise between the views of the subject held by *oystermen* on one hand and by *oyster culturists* on the other is that contained in an opinion rendered by Judge Charles F. Goldsborough in the circuit court for Dorchester County in the July term, 1881, in the case of William T. Windsor and George R. Todd *v.* Job T. Moore.

This definition has been adopted by the Shell Fish Commission as the basis for the determination of the status of the various oyster bottoms surveyed and is as follows:

What then is a natural bar or bed of oysters? It would be a palpable absurdity for the State to attempt to promote the propagation and growth of oysters and to encourage its citizens, by a grant of land, to engage in their culture, if the lands authorized to be taken up were only those upon which oysters do not and can not be made to grow. That there may be lands covered by water in the State where no oysters can be found, but where, if planted, they could be cultivated successfully, may be possible, but, if so, I imagine that their extent must be too limited for them to be of much practical, general advantage for the purposes of such a law as the one under discussion; but there are thousands of acres of hard and shifting sands where oysters not only are not found, but where it would be folly to plant them, and these latter it can not be supposed that the State intended to offer to give away, for the simple reason that the State could not help knowing that nobody would have them.

Upon the other hand there are large and numerous tracts where oysters of natural growth may be found in moderate numbers, but not in quantities sufficient to make it profitable to catch them,

and yet where oysters may be successfully planted and propagated. In my opinion these can not be called natural bars or beds of oysters, within the meaning of the Act of Assembly, and it is just such lands as these that the State meant to allow to be taken up under the provisions of the above-mentioned section of the Act.

But there is still another class of lands where oysters grow naturally and in large quantities and to which the public are now and have been for many years in the habit of resorting with a view to earning a livelihood by catching this natural growth, and here, I think, is the true test of the whole question. Land can not be said to be a natural oyster bar or bed merely because oysters are scattered here and there upon it, and because if planted they will readily live and thrive there; but whenever the natural growth is so thick and abundant that the public resort to it for a livelihood, it is a natural oyster bar or bed and comes within the above-quoted restriction in the law, and can not be located or appropriated by any individual.

APPLICATION OF DEFINITION.

Before this definition may be of use in determining, accurately and scientifically, the status of an oyster ground, its central idea, "livelihood," must be expanded into accurately determinable factors, and these factors must be combined into a practical scheme of investigating the condition of the ground under consideration.

Stated briefly, a *livelihood* is represented by a *sum of money* obtained from the sale, at a fixed *price*, of a certain *quantity of oysters* gathered in a given time from an allotted *area* of ground.

Knowing the value of each of these factors, it becomes possible to calculate the number of oysters an oyster ground must produce per square yard in order that oystermen may secure a livelihood by working upon it.

NOTE.—The factors into which the Commission resolved the livelihood problem, the values assigned to each factor, and the scheme devised for practical use in examining and applying the definition to oyster bottoms are given in outline in their second report under the heading of the preceding extract, and in detail in their first report on pages 32 to 69.

APPENDIX C.—SUMMARY OF THE PARTICULAR SURVEYING OPERATIONS WHICH CONSTITUTE AN "OYSTER SURVEY" AS NOW BEING CARRIED ON IN MARYLAND.

Explanation.—A brief account of the particular surveying operations which constitute an "oyster survey" as now being carried on in Maryland will assist in the interpretation of records contained in the technical part of this report, and will be of interest to many who may not understand the necessity for the great amount of work being done or its complicated character.

To those familiar with methods used in surveying and charting the characteristic features of large bodies of water there is an evident necessity for the various operations performed, especially when it is known that the boundaries of the public oyster bars and of the private lots leased for purposes of oyster culture must be surveyed and charted with the greatest practical accuracy. To others it will be sufficient to state that the actual experience gained from oyster surveys in other States has proven that in order to avoid endless dissatisfaction and litigation it is necessary to accurately locate and permanently establish oyster boundaries as is now being done in Maryland.

Triangulation survey.—Such refinement of survey work as that demanded by the conditions of an oyster survey when carried on at considerable distances offshore can only be obtained by the use of a system of triangulation as a framework or foundation. Therefore, a triangulation survey including the permanent marking of the positions of landmarks with monuments and a record of the descriptions of their locations for future recovery is a necessary operation of a complete oyster survey.

Topographic survey.—The technical records which establish the relation between the offshore oyster boundaries and triangulation landmarks are sufficient for the requirements of engineers in making resurveys, but do not supply the needs of others who are interested in the same boundaries by reason of their occupation as oystermen concerned as to the public oyster bars, or oyster culturists concerned as to the leasable bottoms. For these it is necessary to have the charts of the survey show the relation of the shore line and other topographic features to the boundaries of the public oyster bars and private oyster farms. Therefore, a topographic survey is a necessary operation of a complete oyster survey.

Hydrographic survey.—In the settlement of the important question of what is, or what is not, a natural oyster bar, and in the consideration of bottoms to be selected for purposes of oyster culture,

information as to the depth of water and the character of the bottom is required. Therefore, a hydrographic survey is a necessary operation of a complete oyster survey.

Necessary foundation for an oyster survey.—Consequently, the necessary components of a satisfactory foundation for a complete oyster survey are the three classes of survey operations technically named triangulation, topography, and hydrography, or, stated in another way, the foundation of a practical oyster survey includes the surveying operations usually followed by the Coast and Geodetic Survey leading up to the preparation and publication of nautical charts.

Special surveys and investigations pertaining to oysters.—Having obtained this cartographic survey for a foundation, partly by new work and partly from records of previous work of the Government, the combined operations [1] making up an "oyster survey" are completed by superimposing on this foundation special surveys and investigations pertaining particularly to oysters or other shell fish.

The special surveys pertaining to oysters furnish information as to the location and outline of oyster-shell bottoms, and are carried on by the sounding boat party in addition to the usual hydrographic work.[2] This operation consists of the observation and record of the character of vibration of a wire and chain apparatus which is dragged over the bottom, the vibrations or lack of vibrations indicating the presence and quantity of shells or absence of shells.

The special oyster investigations [3] consist of the actual determination of the kind and quantity of oysters on the bottom, and such economic and biological studies of the supply of oyster food, density of water, character of the bottom, and other important matters as affect the growth of oysters. In this work the oyster investigation stations are located and buoyed by the hydrographic party while engaged in the survey of the oyster-shell limits. They are selected with the view of obtaining characteristic data which can be used for the interpretation of the recorded vibrations of the chain apparatus at all other points covered by the survey.

Preparation of results.—The actual surveying operations and oyster investigations having been completed for any one county, there still remains technical work of nearly equal magnitude to that described.[4] This work consists of the preparation of charts and technical descriptions of boundaries and landmarks for publication by the Government, the preparation of that part of the annual report of the Commission covering the special oyster surveys and investigations, the making of the leasing charts and finished projections, and finally the filing of the oyster charts and records with the courts and the Commission, thus opening a county for oyster culture.

Summary.—From the foregoing account it can be seen that a complete oyster survey properly conducted so as to answer all practical requirements of the present and permanency of results for the future is a very complicated affair, involving many lines of surveying and other scientific work, and requiring the professional services of experts in the various operations of cartographic surveying and shell-fish investigations.

[1] See Appendix D of this publication for "Statistics of results of combined operations of the Government and State."

[2] See pages 104–123 of "First Annual Report of Maryland Shell Fish Commission."

[3] See pages 30–67 and 129–199 of "First Annual Report of Maryland Shell Fish Commission."

[4] No mention is made here of the large amount of administrative work of the commission, which is greatly complicated and increased by the effect of the oyster-survey operations on many thousands of people whose interests are more or less involved; or of the large amount of survey work involved in the survey and record of the boundaries of oyster lots leased from the State by private individuals for the purposes of oyster culture.

APPENDIX D.—STATISTICS OF RESULTS OF THE COMBINED OYSTER SURVEY OPERATIONS OF THE GOVERNMENT AND STATE.[1]

Operations.	Anne Arundel County.	Somerset County.	Wicomico County.	Worcester County.	Calvert County.	Charles County.	St. Marys County.	Total.[2]
Beginning of field work	June 29, 1906	May 2, 1907	Aug. 27, 1907	Nov. 8, 1907	May 2, 1908	Aug. 18, 1908	May 2, 1908	.....
Filing of certified charts and reports	June 20, 1907	July 1, 1908	Dec. 1, 1908	Apr. 12, 1909	Dec. 14, 1909	Jan. 27, 1911	July 6, 1911	.....
Natural oyster bars surveyed and delineated	91	37	15	28	41	15	124	351
Acres of natural oyster bars	33,666	27,566	2,038	1,655	12,303	2,285	25,778	[3] 105,291
Crab bottoms surveyed and delineated	.....	54	.....	.....	.....	.....	.....	54
Acres of crab bottoms	.....	32,108	.....	.....	.....	.....	.....	32,108
Clam beds surveyed and delineated	.....	3	.....	.....	.....	.....	.....	3
Acres of clam beds	.....	506	.....	.....	.....	.....	.....	506
Boundary buoys located and planted	362	154	53	108	149	51	513	1,390
Triangulation landmarks established	123	86	30	48	78	42	238	509
Miles of shore line covered by triangulation	110	125	46	95	95	32	160	587
Square miles of water covered by triangulation	220	375	44	110	157	20	180	1,012
Miles of examination of shell bottom with chain apparatus	369	296	58	63	250	38	400	1,474
Oyster investigation stations occupied	440	679	162	147	667	113	1,4727	3,080
Tide stations established	4	3	1	1	2	1		19
Number of soundings over shell bottoms	37,049	17,904	3,387	3,649	11,292	1,631	19,374	94,256
Square miles covered by soundings and chain apparatus	58	47	3	3	30	4	57	192
Projections prepared and plotted	9	13	2	5	8	3	15	47
Leasing charts prepared	13	12	2	3	5	2	10	43
Oyster charts published	4	6	2	3	5	1	8	26
Reports published	2	2	2	2	2	2	2	9
Progress maps published	2		2	2	2	2	2	9

[1] These statistics do not include the large amount of triangulation, topography, and hydrography resulting from previous work of the Coast and Geodetic Survey, which was utilized in the preparation of the published oyster charts and records. Work in Baltimore, Kent, Queen Anne, Talbot, and Dorchester Counties has been finished, but final statistics of results will not be published until these counties are opened for oyster culture.

[2] Less quantities covered by statistics of more than one county.

[3] Total area of natural oyster bars of Connecticut is 5,770 acres.

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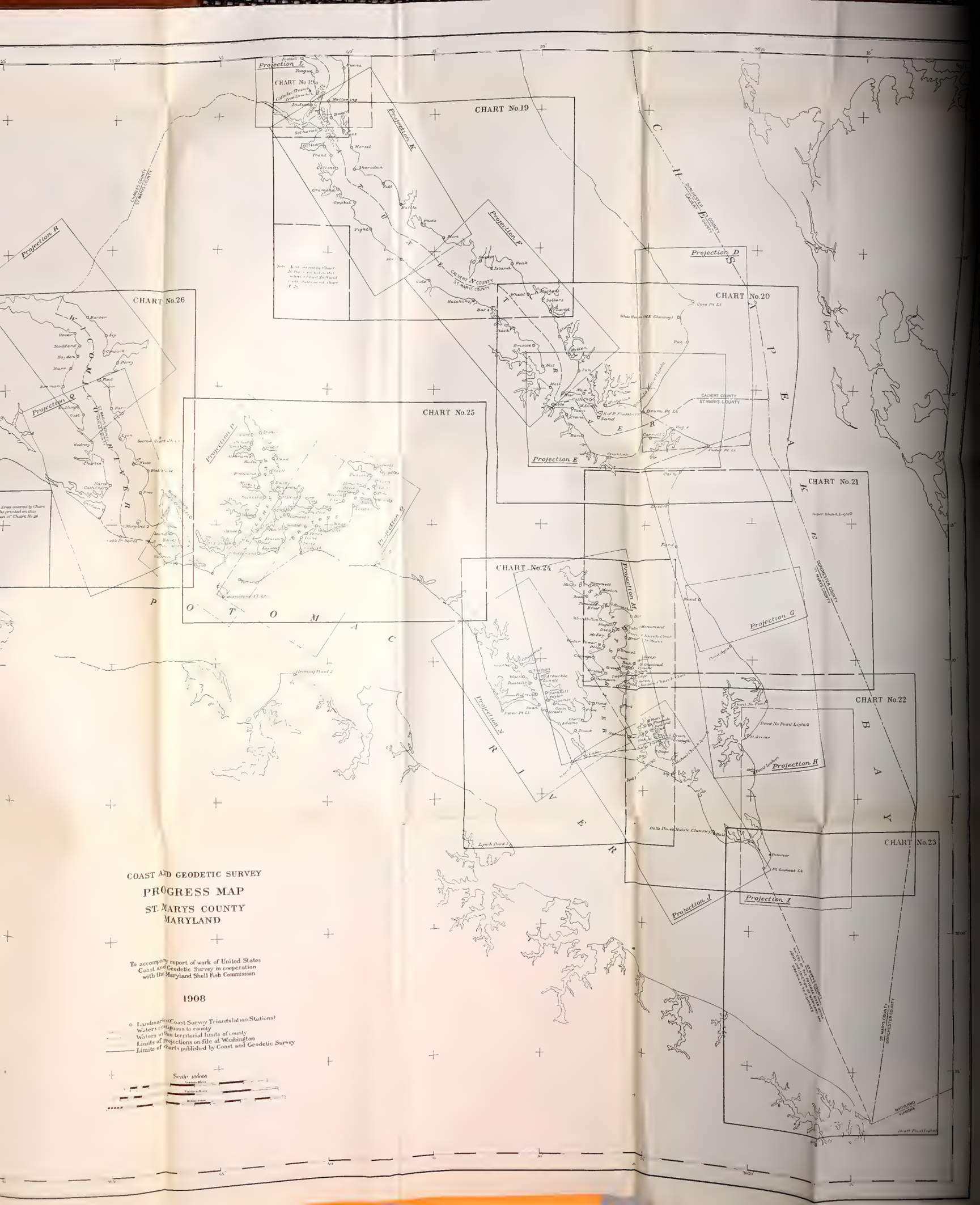

COAST AND GEODETIC SURVEY

PROGRESS MAP

ST. MARYS COUNTY
MARYLAND

To accompany report of work of United States Coast and Geodetic Survey in cooperation with the Maryland Shell Fish Commission

1908

- Landmarks (Coast Survey Triangulation Stations)
- Waters contiguous to county
- Waters within territorial limits of county
- Limits of projections on file at Washington
- Limits of charts published by Coast and Geodetic Survey

Scale 100000

DEPARTMENT OF COMMERCE AND LABOR
COAST AND GEODETIC SURVEY
O. H. TITTMANN, Superintendent

SURVEY OF OYSTER BARS

SOMERSET COUNTY MARYLAND

DESCRIPTION OF BOUNDARIES AND LANDMARKS AND REPORT OF WORK OF UNITED STATES COAST AND GEODETIC SURVEY IN COOPERATION WITH UNITED STATES BUREAU OF FISHERIES AND MARYLAND SHELL FISH COMMISSION

By C. C. YATES
CHIEF OF COAST AND GEODETIC SURVEY PARTY
ASSISTANT, COAST AND GEODETIC SURVEY

WASHINGTON
GOVERNMENT PRINTING OFFICE
1908

DEPARTMENT OF COMMERCE AND LABOR

Document No. 94

COAST AND GEODETIC SURVEY

2

LETTER OF SUBMITTAL.

DEPARTMENT OF COMMERCE AND LABOR,
COAST AND GEODETIC SURVEY,
Washington, June 29, 1908.

SIR: I have the honor to transmit herewith the report of the officer detailed from the Coast and Geodetic Survey to cooperate with the Bureau of Fisheries and the Maryland Shell Fish Commission in surveying the oyster bars of the State of Maryland, and certain technical results which are necessary for the interpretation and use of the plats of the survey made by the Government.

This work has been done under the provisions of the act of Congress entitled "An act to authorize the Secretary of Commerce and Labor to cooperate, through the Bureau of the Coast and Geodetic Survey and the Bureau of Fisheries, with the shellfish commissioners of the State of Maryland in making surveys of the natural oyster beds, bars, and rocks in the waters within the State of Maryland," approved May 26, 1906, and of the acts of Congress making appropriations for sundry civil expenses of the Government for the fiscal years ending June 30, 1907, 1908, and 1909.

Respectfully,

O. H. TITTMANN, *Superintendent.*

To Hon. OSCAR S. STRAUS,
Secretary of Commerce and Labor.

CERTIFICATION.

ANNAPOLIS, MD., *June 25, 1908.*

The following publication is certified to contain correct technical descriptions of all boundaries and landmarks established in the waters of Somerset County by the Maryland Shell Fish Commission in cooperation with the United States Coast and Geodetic Survey.

C. C. YATES,
Chief of Coast and Geodetic Survey Party,
Assistant, Coast and Geodetic Survey.

ANNAPOLIS, MD., *June 25, 1908.*

Examined and certified to be correct.

WALTER J. MITCHELL,
CASWELL GRAVE,
BENJAMIN K. GREEN,
Maryland Shell Fish Commissioners.
SWEPSON EARLE,
Hydrographic Engineer.

NOTE.—As required by law, certified copies of this publication and of the charts of the natural oyster bars of "Somerset County and adjacent waters" were filed in the office of the clerk of the circuit court of Somerset County and in the office of the Board of Shell Fish Commissioners, at Annapolis, on July 1, 1908.

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SURVEY OF OYSTER BARS, SOMERSET COUNTY, MD.

INTRODUCTION.

PUBLICATIONS.

The preparation of publications relating to the survey of the oyster bars, crab bottoms, and clam beds of Maryland has been divided between the Government and the State in accordance with the laws [a] authorizing the work and the natural division of the surveying operations of the cooperating forces.

The publications prepared and issued by the Government under the direction of the Superintendent of the Coast and Geodetic Survey consist of a series of charts and a technical report for each county surveyed.[b] The charts show all legal boundaries of oyster bars, crab bottoms, and clam beds within the adopted boundaries of the waters opened up for leasing with each county, and the location of all landmarks (Coast and Geodetic Survey triangulation stations) used as a foundation for the delineation of these various boundaries. The technical report gives technical and legal descriptions of all oyster bar and other boundaries, and descriptions of all landmarks shown on the charts, and includes the report [c] of the representative of the Coast and Geodetic Survey in charge of the work of that Service in cooperation with the Bureau of Fisheries and the Maryland Shell Fish Commission. These charts and technical reports are prepared and certified for file with the courts and the Commission, as required by the laws of the State, and contain all information necessary to make a permanent record of the work of the Commission and the Government for all future requirements of the courts, or for any resurveys that may become necessary.

The part prepared and issued by the State under the direction of the Shell Fish Commission consists of an annual report [d] of all the operations of the Commission performed under the provisions of the laws of Maryland,[e] including results of biological and economic oyster investigations, methods and results of the hydrographic survey of the boundaries of oyster bars and crab bottoms, the administrative report and financial statement of the Commission, information relating to oyster culture, methods of sur-

[a] See Appendix A for laws relating to the cooperation of the Coast and Geodetic Survey and Bureau of Fisheries with the Maryland Shell Fish Commission.

[b] These charts and technical reports can be obtained by application to the Superintendent of the Coast and Geodetic Survey, at Washington, D. C. The publications ready for issue are those of Anne Arundel and Somerset counties. Those of Wicomico and Worcester counties are now being prepared.

[c] See page 16 and the progress map attached to this publication.

[d] These reports can be obtained by application to the Shell Fish Commission, Annapolis, Md. They are issued annually in October, and the first report is now available for distribution.

[e] See Appendix D for an extract from the "First Report of the Maryland Shell Fish Commission," giving a concise summary of the "Haman Oyster Culture Law."

veying and leasing of oyster lots, and much other important matter of legal and scientific value.

These two sets of publications are planned and arranged to supplement each other without unnecessary duplication, and when combined they form a complete report of operations, methods, and results of the work of both the Government and State.

COOPERATION OF THE COAST AND GEODETIC SURVEY.

The work of the Coast and Geodetic Survey, as the name of the Service indicates, includes a survey of the coasts of the United States made on a geodetic basis. This has involved the gradual construction of a great framework of interstate triangulation for use as a foundation for detail hydrographic and topographic surveys, from which there has been compiled and published a complete set of charts of the coasts of the United States, including all waters of Maryland where oysters grow. This existing triangulation, hydrography, and topography is essential for a correct and practical survey of natural oyster bars; and it being one of the fundamental functions of the Coast and Geodetic Survey to furnish such data, the cooperation of the Coast and Geodetic Survey with the Bureau of Fisheries and the Maryland Shell Fish Commission is a practical and natural development of Government work leading to the conservation and increase of the supply of food.

COOPERATION OF THE BUREAU OF FISHERIES.

The Bureau of Fisheries has cooperated with the Coast and Geodetic Survey and the Maryland Shell Fish Commission principally as an advisor in matters relating to the biological and economic survey of oyster bars and the methods to be employed for that purpose.[a] A steam launch, rowing boat, and certain apparatus have also been furnished.

The primary function of the Bureau of Fisheries is to increase the productiveness of marine and fresh waters by such measures as may be best suited to the purpose, and the services rendered in connection with the survey of the oyster bars of Maryland are strictly in line with the fundamental law under which it acts. In certain States other than Maryland similar work has been conducted by the Bureau acting independently, the same ends being attained at greater expense to the Government.

GENERAL REMARKS.

A brief account of the particular surveying operations which constitute an "oyster survey" as now being carried on in Maryland will assist in the interpretation of records contained in the technical part of this report, and will be of interest to the many who may not understand the necessity for the great amount of work being done or its complicated character.

To those familiar with surveying methods on open waters the necessity for the various operations performed are evident, especially when it is known that the boundaries of the public oyster bars and of the private lots leased for purposes of oyster culture must be surveyed and charted with the greatest attainable accuracy. To others it will be

[a] Hon. George M. Bowers, Commissioner of Fisheries, has detailed for this service Dr. H. F. Moore, Assistant, Bureau of Fisheries.

sufficient to state that the actual experience gained from oyster surveys in other States has proven that to accurately locate and permanently establish oyster boundaries as is now being done in Maryland is necessary if endless dissatisfaction and future litigation are to be avoided.

Such refinement of survey work as demanded by the conditions of an oyster survey when carried on at considerable distances offshore can only be obtained by the use of a system of triangulation as a framework or foundation. Therefore, a triangulation survey including the permanent marking of the positions of landmarks with monuments and a record of the descriptions of their locations for future recovery is a necessary operation of a complete oyster survey.

The technical records which established the relation between the offshore oyster boundaries and triangulation landmarks are sufficient for the requirements of engineers in making resurveys, but do not supply the needs of others who are interested in the same boundaries by reason of their occupation as oystermen concerned as to the public oyster bars, or oyster culturists concerned as to the barren bottoms. For these it is necessary to have the charts of the survey show the relation of the shore line and other topographic features to the boundaries of the public oyster bars and private oyster farms. Therefore, a topographic survey is a necessary operation of a complete oyster survey.

In the settlement of the important question of what is, or what is not, a natural oyster bar, and in the consideration of bottoms to be selected for purposes of oyster culture, information as to the depth of water and the character of the bottom is required. Therefore, a hydrographic survey is a necessary operation of a complete oyster survey.

Consequently, the necessary components of a satisfactory foundation for a complete oyster survey are the three classes of survey operations technically named triangulation, topography, and hydrography, or, stated in another way, the foundation of a practical oyster survey includes the surveying operations usually followed by the Coast and Geodetic Survey leading up to the preparation and publication of navigational charts.

Having obtained this cartographic survey for a foundation, partly by new work and partly from records of previous work of the Government, the combined operations [a] making up an "oyster survey" are completed by superimposing on this foundation special surveys and investigations pertaining particularly to oysters or other shell fish.

The special surveys pertaining to oysters furnish information as to the location and outline of oyster-shell bottoms and are carried on by the sounding boat party in addition to their usual hydrographic work.[b] This operation consists of a record of the character of vibration of a wire and chain apparatus which drags over the bottom. The vibrations or lack of vibrations indicating the presence or absence of shells.

The special oyster investigations [c] consist of the actual determination of the kind and quantity of oysters on the bottom, and such economic and biological studies of the supply of oyster food, density of water, character of the bottom, and other important

[a] See Appendix C of this publication for "Statistics of results of combined operations of the Government and State."

[b] See pages 104 to 123 of "First Annual Report of Maryland Shell Fish Commission."

[c] See pages 30 to 67 and 129 to 199 of "First Annual Report of Maryland Shell Fish Commission."

matters as affect the growth of oysters. In this work the oyster investigation stations are located and buoyed by the hydrographic party while engaged in the survey of the oyster-shell limits. They are selected with the view of obtaining characteristic data which can be used for the interpretation of the recorded vibrations of the chain apparatus at all other points covered by the survey.

The actual surveying operations and oyster investigations having been completed for any one county, there still remains technical work of nearly equal magnitude to that described.[a] This work consists of the preparation of charts and technical descriptions of boundaries and landmarks for record and publication by the Government, the manufacture and planting of the "State buoys" at all corners of the oyster-bar boundaries, the preparation of that part of the annual report of the Commission covering the oyster investigations, the making of the leasing charts and finished projections, and finally the survey and record of the boundaries of oyster lots leased from the State by private individuals for the purposes of oyster culture.

From the foregoing account it can be seen that a complete oyster survey properly conducted so as to answer all practical requirements of the present and permanency of results for the future is a very complicated affair, involving many lines of surveying and other scientific work, and requiring the professional services of experts in the various operations of cartographic surveying and shell-fish investigations.

REPORT OF THE WORK OF THE COAST AND GEODETIC SURVEY.

INSTRUCTIONS.

The two following letters, together with the laws[b] of the United States relating to the subject, constitute the "instructions" received by the chief of the Coast and Geodetic Survey party engaged on work in connection with the Maryland Shell Fish Commission. They are short and definite, but furnish ample authority and leeway for all legitimate development of the cooperation of the Government and the State in the survey of oyster bars. The "free hand" permitted by these orders, together with the aid and many valuable suggestions received from the officers of the Survey at Washington, has proved very beneficial to the work, and is greatly appreciated.

DEPARTMENT OF COMMERCE AND LABOR,
OFFICE OF THE SECRETARY,
Washington, June 2, 1906.

SIR: In reply to your letter of May 28, requesting me to designate officers of the Coast and Geodetic Survey and of the Bureau of Fisheries to cooperate with the State of Maryland in making survey of and locating the natural oyster beds, I have the honor to inform you that Mr. C. C. Yates will be designated to cooperate on the part of the Coast and Geodetic Survey as soon as Congress makes the provisions of the act effective by providing an appropriation for the purpose.

Respectfully,

LAWRENCE O. MURRAY, *Assistant Secretary.*

His excellency Hon. EDWIN WARFIELD,
Governor of Maryland, Annapolis, Md.

[a] No mention is made here of the large amount of administrative work of the Commission, which is greatly complicated and increased by the economic and political effect of the oyster-survey operations on many thousands of people whose interests are more or less involved.

[b] For these laws see Appendix A.

DEPARTMENT OF COMMERCE AND LABOR,
COAST AND GEODETIC SURVEY,
Washington, July 3, 1906.

SIR: Upon the receipt of these instructions you will surrender the command, accounts, etc., of the steamer *Endeavor* to the Hydrographic Inspector. * * *

As soon as this transfer is completed you will enter upon the duties of Coast Survey representative on the Shell-Fish Commission of Maryland.

You will consult the commissioners, prepare a programme of work, and submit estimates in the usual form.

You are authorized to come to Washington for consultation from time to time as may be necessary.

* * * * * * *

Very respectfully,

O. H. TITTMANN, *Superintendent.*

Capt. C. C. YATES,
U. S. C. and G. S. Steamer Endeavor, Baltimore, Md.

ORGANIZATION.

The organization of the party has remained practically unchanged and consists of the chief and the necessary triangulators, computors, and draftsmen.

EQUIPMENT.

The equipment for the work of the party has been ample and satisfactory. The large living and office quarters furnished the Government on the Maryland Shell Fish Commission house boat *Oyster* have been very convenient for the work, besides facilitating efficient cooperation with the surveying and oyster investigation parties of the State. In addition to the accommodations on the *Oyster* the Coast and Geodetic Survey party has had the constant use of the large steam launch *Inspector* and several other boats furnished by their own Service, and the occasional use of the Bureau of Fisheries launch *Canvasback*[a] and the steamer *Governor McLane*[b] of the State fishery force.

The greater part of the equipment of instruments for the operations of both the Government and State have been furnished by the Coast and Geodetic Survey and consist of all necessary theodolites, levels, sextants, drafting instruments, hydrometers, etc., required for all field and office work.

CHRONOLOGICAL STATEMENT OF WORK.[c]

On June 20, 1907, the "Charts of Natural Oyster Bars" and report[d] of "Survey of Oyster Bars" for Anne Arundel County were issued and filed, and the survey records and reports for that county have been filed in the archives of the Survey at Washington.

In addition to this work, a Coast and Geodetic Survey signal-building party was engaged in the erection of triangulation signals in Somerset County from May 2 to June 25 in cooperation with a signal-building party of the Shell Fish Commission.

[a] By courtesy of Dr. H. F. Moore, U. S. Bureau of Fisheries.

[b] By courtesy of Capt. James A. Turner, commanding.

[c] The field and office work relating to Somerset County is so intermixed with that of Wicomico County that this statement includes part of the work of the latter county.

[d] See this report for an account of the work from July 3, 1906, to June 20, 1907.

From June 25 to November 6, when the field work in Somerset and Wicomico counties was practically completed, the usual routine of field and office work was followed without material interruption except that resulting from the moving of the house boat *Oyster* from Crisfield to Manokin River on July 13, then to Piney Island on August 27, and to Wicomico River, on August 30, where she remained until her removal to Nanticoke River on September 30.

From this latter date the work in Wicomico County predominated, and when the field surveys were practically completed on November 6 the entire party left by rail for Worcester County, it being impracticable to move the house boat to the waters of that locality.

At the close of the survey work in Worcester County in the last part of December, office work relating to Somerset and Wicomico counties was actively commenced at Baltimore[a] and was continued without material interruption until March 23, 1908, when a subparty went to Worcester and Somerset counties to finish some details of field work in those sections required for the preparation of the technical reports and oyster charts.

The very large amount of work of computation and drafting necessary to make the results of the survey of the previous season available for publication was nearly completed on May 2, when it was transferred to the Government quarters on the house boat *Oyster*, which left Baltimore on the same day with the party and outfit for her anchorage off Solomons Island, in the Patuxent River.

The active field work in Calvert County dates from May 2, but from that time until the filing of this report and the oyster charts of Somerset County the chief of party, in addition to his regular field duties, was frequently at Baltimore and Washington to look after their final preparation for publication.

STATISTICS.[b]

Landmarks and triangulation signals erected	60
Monuments planted to mark triangulation stations	61
Triangulation stations occupied for observations of horizontal angles	66
Old triangulation stations recovered	24
New triangulation stations established	62
Total old and new triangulation stations marked and described	86
Linear miles of shore line covered by triangulation (approximate)	125
Square miles covered by triangulation (approximate)	375
Hydrographic projections prepared and completed as records of oyster, crab, and clam boundaries	13
Triangles computed	209
Geographic positions computed	76

[a] Office rooms were furnished for the work of the Government party in the "old court-house" and afterwards in the new custom-house by courtesy of Hon. William F. Stone, collector of customs.

[b] These statistics only include field and office work directly performed by the party of the Coast and Geodetic Survey in connection with the oyster survey of Somerset County, and do not include the many thousands of soundings and examinations of the character of the bottom made by the engineers of the Commission, which are of considerable value to the Coast and Geodetic Survey as hydrographic records for future use in connection with the preparation of new editions of charts of the waters of Maryland.

Corners of oyster, crab, and clam boundaries established by computation	506
Back azimuths and distances computed from corners of boundaries to triangulation stations	1,518
Descriptions of triangulation stations prepared for publication	86
Descriptions of oyster, crab, and clam boundaries prepared for publication	94
Total typewritten pages of manuscript prepared for publication of report	264
"Charts of Natural Oyster Bars" prepared for publication	6
Progress map prepared for publication	1

GENERAL STATEMENT.

The results obtained from the work of the Coast and Geodetic Survey in Somerset County in cooperation with the Bureau of Fisheries and the Maryland Shell Fish Commission need no other summary than is indicated by the published "Charts of Natural Oyster Bars" and the scheme of hydrographic projections and triangulation stations shown on the progress map at the beginning of this report.

The triangulation has been carried on in accordance with the standard methods of the Coast and Geodetic Survey, making this work and that of the "Descriptions of Triangulation Stations" of permanent value, not only to the State of Maryland in the survey of her oyster bars, but also to the Government for any future work it may do in the regions covered by the oyster survey operations.

The hydrographic projections and published charts were prepared with all the accuracy permitted by their large scale, especially as to the boundaries of the various shell-fish bottoms in relation to landmarks, but this accuracy of location on the charts is further added to by published technical descriptions which should minimize the probability of any future dispute as to either landmarks or boundaries.

Stated another way and quoting from the report of the "Survey of Oyster Bars of Anne Arundel County:"

> The geographic positions of the permanent landmarks and signals have been determined with the usual precision of a trigonometric survey, and their locations at all points necessary to provide ample foundation for the surveying and charting operations permitted great accuracy of definition and location for the natural oyster bar and other boundaries established. At the same time, the very important element of permanency of the positions of boundaries has been secured, as the relocation of geodetic positions can always be accomplished by a competent surveyor, even though the original landmarks and monuments have been washed away, as has been the fate of hundreds of such points established by the Coast and Geodetic Survey on the shores of the Chesapeake Bay during the last sixty-five years.

In fact, when the survey of the oyster bars of Maryland is completed, it is believed that it will stand the test of time and practical use as a working foundation for whatever form the oyster legislation of the future may assume; and that the doing of the work systematically and accurately, once for all, not only means a better foundation of a great oyster industry by irradicably locating the natural oyster bars for the use of the public, but also a better and more permanent superstructure of oyster culture for the individual by the reason of the integrity of the foundation on which it stands.

Before ending this report the representative of the Coast and Geodetic Survey wishes to renew his statement of appreciation of the courteous assistance received from various Government and State officials and others interested in the oyster industry of Maryland, especially to the following:

To his colleague from the Department of Commerce and Labor, Dr. H. F. Moore of the Bureau of Fisheries, whose efficient cooperation, well-known experience, and scientific knowledge of all matters relating to oysters have been of great value to the work.

To Mr. Walter J. Mitchell, chairman of the Maryland Shell Fish Commission, who, by his administrative ability in carrying out the complicated requirements of the oyster laws and by his unfailing tact, has made the cooperation of the various services engaged on the work both agreeable and effective.

To Dr. Caswell Grave, secretary of the Commission, who, as editor of the Commission's annual report and commissioner in charge of the biological and economic oyster investigations, has been brought into constant contact with the Government work and aided its operations in every way.

To Benjamin K. Green, treasurer of the Commission, who has looked after the equipment and commissary of the house boat in such a way as to add greatly to the comfort and convenience of the party of the Coast and Geodetic Survey.

To Swepson Earle, hydrographic engineer to the Commission, whose knowledge of the work from former service in the Coast and Geodetic Survey has greatly facilitated his practical use of the technical data furnished by the Government.

To Thomas H. Robinson, counsel to the Commission, for courteously furnishing valuable information relating to county boundaries.

And to the many others connected with the Commission or who as residents in the locality where the work was being carried on have greatly assisted by furnishing important information or willing services.

CHARTS AND MAPS.

CHARTS OF NATURAL OYSTER BARS.

The charts[a] of the natural oyster bars of "Somerset County and Adjacent Waters," published by the Coast and Geodetic Survey from results of surveys of the Government in cooperation with the Maryland Shell Fish Commission, consist of a series of five sheets covering the eastern shore of Chesapeake Bay from Hooper Strait to the Maryland-Virginia boundary, including Tangier and Pocomoke sounds and numerous other tributaries. They are published on a scale of 1 part in 20,000 (approximately 3⅓ inches to a statute mile) and are constructed on polyconic projections and based on the United States standard datum of the Coast and Geodetic Survey.

These charts show all oyster bars, crab bottoms, clam beds, and other boundaries established by the Commission, and are certified for the purpose of filing in the office of the clerk of the circuit court of Somerset County and in the office of the Commission at Annapolis, as required by the oyster laws of Maryland.

In addition to the oyster-bar and other boundaries, the charts show the location and name of all landmarks (U. S. Coast and Geodetic Survey triangulation stations) used in making the survey, together with the hydrography and topography[b] necessary to make the technical definitions and delineations of boundaries readily understandable

[a] These charts can be obtained by application to the Superintendent of the Coast and Geodetic Survey, at Washington, D. C.

[b] Much of the details of the inshore topography was obtained from the excellent map of Somerset County prepared and published by the Maryland Geological Survey under the direction of Dr. William Bullock Clark from surveys of the Maryland Geological Survey in cooperation with the U. S. Geological Survey.

both by the people engaged in the oyster industry and the general public who may become interested through leasing of barren bottoms for oyster culture.

The names of the oyster bars, crab bottoms, and clam beds are those used locally, as nearly as could be ascertained by the hydrographic engineer of the Commission. When there was no local name in common use, as was generally the case with the crab bottoms, a name was selected from one of the prominent features of the vicinity. By the use of recognized names or those that would naturally suggest certain sections of water, it is believed that much confusion will be avoided in the location on the charts of the oyster bars and crab bottoms, especially by those not familiar with the use of maps.

The corners of the oyster bars, crab bottoms, and clam beds are numbered from 1 to the total number of corners in each area under consideration. Where boundaries adjoin, making one point a corner of two or more oyster bars, crab bottoms, or clam beds, as the case may be, these points have two or more numbers, each number corresponding to the bar, bottom, or bed in which the figure is located. The numbers of the corners correspond with the technical and legal descriptions of this publication under the headings of "Boundaries of natural oyster bars," "Boundaries of crab bottoms," and "Boundaries of clam beds."

The landmarks, oyster bars, crab bottoms, and clam beds have been grouped in the "Contents" of this publication in accordance with the charts upon which they are shown. To find a particular bar, bottom, bed, or landmark which is only known by name, consult the "Contents" and the desired chart and general location will be indicated. To find the name of a bar, bottom, bed, or landmark which is only known by location, consult the progress map at the beginning of this publication for the number of the chart on which it is to be found, and then examine the known locality on the chart for the name of the bar, bottom, bed, or landmark in question.

The contours on the charts showing the depth of water at mean low tide have been taken from the hydrographic sheets of former work of the Coast and Geodetic Survey. Four curves were selected as being the most convenient for taking off from the original hydrographic sheets and the ones of greatest value to those interested in shell-fish industries. The 1-fathom contour (6 feet) corresponds in a general way to the outer limits of the crab bottoms, while the waters outside of this curve and inside the 5-fathom contour (30 feet) practically include all the oyster bars surveyed. The 3-fathom contour (18 feet) furnishes the curve of about the average depth of water on the oyster bars and the 10-fathom contour (60 feet) serves in a general way to indicate the outer limits of probable oyster culture.

The boundaries of the waters within the "territorial limits of the county" and the boundaries of the "waters contiguous to the county" opened up for the leasing with Somerset County are plainly indicated on the charts. A full technical description of these boundaries is given in this publication under the heading "Boundaries of county waters."

The areas in acres of the oyster bars, crab bottoms, and clam beds were determined under the direction of the hydrographic engineer of the Commission by two independent planimeter measurements of the areas as delineated on the smooth projections of the

Coast and Geodetic Survey. These areas are given in small figures in parentheses on the face of the chart and are usually located within the boundaries of the different areas.

The symbols used on the charts for the different kinds of boundaries, triangulation stations, contours of depth of water, etc., require no other explanation than that given in the legend and other notes on the face of the charts.

LEASING CHARTS.

The leasing charts of Somerset County, like those for Anne Arundel County, have been prepared under the direction of the hydrographic engineer of the Commission. These charts are constructed on polyconic projections and based on the United States standard datum of the Coast and Geodetic Survey. They are made on the scales of 1 part in 5,000 or 1 part in 10,000, as the needs of oyster culture may require. Anne Arundel County required 13 leasing charts and Somerset County 12 to cover their oyster bottoms.

These charts show all the oyster bars, crab bottoms, and clam beds and other boundaries established by the Commission, and also all boundaries of oyster lots leased for the purpose of oyster culture, thus making them comprehensive and valuable records of the results of the operations of the oyster-culture laws.

The lots leased under the provision of the "old 5-acre law" are frequently of irregular shape, but the lots leased under the provision of the new oyster laws must be of rectangular shape by the terms of that act. For this latter purpose the leasing charts have been divided by parallels of latitude and meridians of longitude into small rectangles of 1 acre or 5 acres, as may be best suited to area under consideration, and prospective leaseholders by the rules of the Commission are compelled to select whole rectangles as far as practicable.

For reasons of the present changeable nature of the number of lots leased and the large number of charts required, the leasing charts are not likely to be published for some years, but they can be seen at any time on file at the offices of the Commission, in Annapolis.

PROJECTIONS.

The polyconic projections[a] covering Somerset County waters are 13 in number and on the scale of 1 part in 10,000. They were all constructed by draftsmen of the Coast and Geodetic Survey, who also plotted the sextant positions on the smooth projections which determine the location of the legal boundaries of the oyster bars, crab bottoms, or clam beds as delineated by the Shell Fish Commission.

A copy of each of these projections, with all the plotted positions of triangulation stations, shore line, sextant positions, and boundaries of oyster bars, was made under the direction of the hydrographic engineer of the Commission by pricking through with a sharp needle the intersections of the projection lines and all other points as plotted on the original sheets.

These projections (in duplicate) are the original records of all oyster bar and other boundaries established by the Commission, one set being filed in the archives of the Coast and Geodetic Survey, at Washington, and the other set in the office of the Shell Fish Commission at Annapolis.

[a] For the scheme of these projections see the progress map at the beginning of this publication.

PROGRESS MAPS.

The progress map to be found at the beginning of this publication is on a scale of 1 part in 100,000, and shows in outline the work accomplished by the U. S. Coast and Geodetic Survey in Somerset County and contiguous waters. It gives the scheme of all the charts and smooth projections constructed in connection with the survey, the location and names of all triangulation stations used as a basis for the surveying work, and the "boundaries of county waters" established by the Commission for the purpose of carrying out the laws of Maryland relating to oyster culture.

Besides indicating the amount of work done by the Coast and Geodetic Survey in connection with the work of the Shell Fish Commission, this progress map will be of special value for index purposes to engineers and others searching for the particular chart or projection covering the locality of the oyster bars or landmarks that may be under consideration.

The progress map[a] accompanying the "First Annual Report of the Maryland Shell Fish Commission" was prepared under the direction of the hydrographic engineer of the Commission. It is on the scale of 1 part in 400,000 and shows the outline of the tide-water counties of Maryland, with shaded areas to indicate the waters already covered by the operations of the oyster survey of Maryland.

BOUNDARIES OF COUNTY WATERS.[b]

WATERS WITHIN TERRITORIAL LIMITS OF COUNTY.

The laws of Maryland relating to oyster culture provide that "no person shall be permitted, by lease, assignment, or in any other manner, to acquire a greater amount of land than ten acres situated within the territorial limits of any of the counties, or one hundred acres in any other place."

The boundary line[c] between the waters "within the territorial limits" of Somerset County and the waters in "any other place," as established by the Shell Fish Commission for the purpose of carrying out the oyster laws, and delineated on the charts and the smooth projections of the Coast and Geodetic Survey, is technically described and defined as follows:

Commencing at a point defined by the intersection of the channels of Wicomico Creek and Wicomico River; thence with the channel of Wicomico River along the boundary line as laid down on Chart No. 5 of the "Natural Oyster Bars" of Maryland, published by the Coast and Geodetic Survey, to a point defined by the intersection of the channel of Nanticoke River with Wicomico River; thence in a straight line to a point defined by[d] latitude 38° 11′ 50″3, and longitude 75° 58′ 20.″8, situated in upper end of

[a] This map and report can be obtained by application to Maryland Shell Fish Commission, at Annapolis, Md.

[b] For a complete historical and legal description of the boundaries of the counties of Maryland, the valuable publication entitled "The Counties of Maryland—Their Origin, Boundaries, and Election Districts," prepared by Dr. Edward B. Mathews and published by the Maryland Geological Survey under the direction of Dr. William Bullock Clark, Superintendent, should be consulted, as the boundaries described in this publication have been established and technically defined for the purpose of carrying out the oyster laws of the State, and may or may not be correct for other purposes.

[c] See "Charts of Natural Oyster Bars," published by the Coast and Geodetic Survey, and the progress map at the beginning of this publication.

[d] Latitudes and longitudes based on the United States standard datum of the U. S. Coast and Geodetic Survey.

Tangier Sound, about ⅞ mile [a] east-southeast of Sharkfin Shoal Light, 2½ miles south of western extremity of Clay Island, and 1¾ miles west-northwest of Halls Point; thence in a straight line along the channel of Tangier Sound to a point defined by latitude 38° 10′ 08.″1, and longitude 75° 58′ 40.″6, situated about 2⅜ miles south by east of Sharkfin Shoal Light and 1⅝ miles west of upper land end of Deal Island; thence in a straight line across Tangier Sound to a point defined by latitude 38° 08′ 50.″6, and longitude 76° 01′ 53.″4, situated on a point of land on the southeastern extremity of Bloodworth Island, which is the north point of the Tangier Sound entrance to Holland Straits; thence in a straight line across Holland Straits to a point defined by latitude 38° 06′ 39.″9, and longitude 76° 03′ 17.″8, situated on northwest extremity of a small island slightly detached from South Marsh and on north side of Holland Straits entrance to Pry Cove; thence in a straight line to a point defined by latitude 38° 05′ 44.″1, and longitude 76° 03′ 44.″6, situated on Pry Island, which is located on south side of Holland Straits entrance to Pry Cove; thence in a straight line to the open waters of the Chesapeake Bay at point defined by latitude 38° 04′ 40.″8, and longitude 76° 04′ 14.″8, situated at junction of Holland and Kedge straits; thence in a straight line along the dividing waters of Chesapeake Bay and Kedge Straits to a point defined by latitude 38° 02′ 07.″0, and longitude 76° 02′ 34.″0, situated on the northwest side of Fog Point, which is the south point of the Chesapeake Bay entrance to Kedge Straits; thence along the mean low water line of the Chesapeake Bay shore of Smith Island across the mouth of all inlets less than 100 yards in width to a point defined by latitude 38° 00′ 31.″0, and longitude 76° 03′ 08.″9, situated on a point at the extreme northwest entrance to Smith Island Thoroughfare; thence in a straight line across the Chesapeake Bay entrance of Smith Island Thoroughfare and Goose Harbor Cove to a point defined by latitude 37° 59′ 30.″0, and longitude 76° 03′ 09.″6, situated on a point at the extreme southwest entrance to Goose Harbor Cove; thence along the mean low water line of Chesapeake Bay shore of Smith Island across the mouth of all inlets less than 100 yards in width to the intersection of the mean low water line and the Maryland-Virginia boundary line; thence in a straight line with the Maryland-Virginia boundary across Smith Island and the waters of Smith Gut, Shanks Creek, and Tylers Creek to a point at a corner of the boundary near the Tangier Sound shore of Smith Island situated on land known locally as Horse Hummock; thence in a straight line with the Maryland-Virginia boundary to point at a corner of the boundary in the middle of Tangier Sound, situated about 1⅞ miles southwest by west of James Island Light, 2¾ miles east by south of Horse Hummock, and 3¼ miles northwest of House Island; thence in a straight line with the Maryland-Virginia boundary to a point at a corner of the boundary in the middle of Tangier Sound, situated about 4⅜ miles southwest by south of James Island Light, 3⅞ miles southeast by east of Horse Hummock, and 2⅝ miles west of House Island; thence in a straight line with the Maryland-Virginia boundary across House Island to a corner of the boundary situated in the water between Watkins Point and Green Harbor Island; thence in a straight line with the Maryland-Virginia boundary to a corner of the boundary situated in the middle of Pocomoke Sound about 4¼ miles east of Watkins Point and 2⅝ miles south of Watkins Island off entrance to Apes Hole Creek; thence in a straight line with the Maryland-Virginia boundary to a corner of the boundary situated in the middle of Pocomoke Sound about 2½ miles northwest by west of Saxis Church, 2½ miles east by south of Watkins Island off entrance to Apes Hole, and 2 miles southwest of extreme end of point between East and Marumsco creeks; thence with the Maryland-Virginia boundary as laid down on "Charts of Natural Oyster Bars" No. 10 along the middle of Pocomoke Sound and Pocomoke River as far as oysters grow.

WATERS CONTIGUOUS TO COUNTY.

The oyster laws of Maryland provide that a true and accurate delineation of all natural oyster bars shall be made on copies of charts of the U. S. Coast and Geodetic Survey, "which said copies shall be filed in the office of the said Commissioners in the city of Annapolis," and "in the office of the clerks of the circuit courts for the respective counties wherein the grounds so designated may lie."

For the purpose of carrying out the latter part of this section of the law and for the purpose of establishing the limits of the oyster-culture area to be opened up for the

[a] Statute miles.

leasing with Somerset County, a boundary line between the waters contiguous to but not within the territorial limits of Somerset County and the waters contiguous to but not within the territorial limits of adjacent counties has been established by the Shell Fish Commission. This boundary line[a] has been delineated on the "Charts of Natural Oyster Bars," published by the Coast and Geodetic Survey, and is technically described and defined as follows:

Commencing at a point defined by latitude 38° 04′ 40″.8, and longitude 76° 04′ 14″.8, situated on line of territorial limits of county at junction of Holland and Kedge straits; thence in a straight line across waters of Chesapeake Bay to Holland Island Bar Light, the location of which is defined by latitude 38° 04′ 07″.3, and longitude 76° 05′ 45″.9; thence in a straight line across waters of Chesapeake Bay to a point defined by latitude 38° 04′ 34″.8, and longitude 76° 12′ 01″.0, situated near the middle of Chesapeake Bay, on northwestern end of a shoal marked by a red buoy of the U. S. Light-House Establishment situated about 5⅝ miles west by north of Holland Island Bar Light, 7⅛ miles east by north of Point Lookout Light, and 13½ miles north of Smith Point Light; thence in a straight line with the waters of Chesapeake Bay to a point on Smith Point defined by the corner of the Maryland-Virginia boundary at the intersection of the straight line boundary across Chesapeake Bay and the low-water line of the southern shore of Potomac River; thence with the Maryland-Virginia boundary in a straight line across Chesapeake Bay to the point defined by the intersection of the boundary with the mean low-water line of the Chesapeake Bay shore of Smith Island; thence with territorial limits of county along the Chesapeake Bay shore of Smith Island and waters of entrance to Kedge Straits to point of beginning.

LANDMARKS (U. S. COAST AND GEODETIC SURVEY TRIANGULATION STATIONS).

EXPLANATION OF DESCRIPTIONS OF LANDMARKS.

The oyster laws of Maryland authorizing the surveys to be made by the Shell Fish Commission provide for "an accurate report of said survey, setting forth such a description of landmarks as may be necessary to enable the said board, or their successors, to find and ascertain the boundary lines of said natural oyster beds, bars, and rocks, as shown by delineation on the maps and charts." The law of the United States authorizing the cooperation of the Department of Commerce and Labor in the survey of natural oyster bars of Maryland provides for the erection of "such structures as may be necessary to mark the points of triangulation, so that the same may be used for such future work of the Coast and Geodetic Survey as the said Bureau may be hereafter required to perform in prosecuting the Government coast survey of the navigable waters of the United States located within the State of Maryland."

Under the provisions of the sections of the laws stated above, the markings and descriptions of landmarks must be sufficient for the present and future needs of both the Government and the State. With this end in view, considerable work has been expended in erecting permanent monuments at the triangulation stations and in the proper description of their location.

An effort has been made to arrange the descriptions of locations of landmarks in a uniform and logical manner. The descriptions start with the assumption that the individual seeking to find a landmark has only an indefinite idea of its location.

[a] See progress map at the end of this publication

They then gradually proceed from general descriptions of the surroundings of a landmark to the specific details of the character of the center and reference markings. An examination of the descriptions themselves will best indicate the method followed.

The heading of each description is the name by which the landmark or triangulation station is known and designated in all work and records of the Government and State.

Under the heading of "Locality" the first paragraph gives a description of the general locality of the landmark and the serial number of the published "Chart of Oyster Bars" of Maryland which best shows its location. The published charts are on the large scale of 1 part in 20,000, and show the location of the triangulation stations so clearly that in many cases the written descriptions will not be required to find them.

Under the same heading of "Locality" the second paragraph furnishes the description of the immediate locality of the landmark and refers to the bearing and distance of standard cement monument marking the reference station, as it is the first object that is likely to catch the eye when the immediate vicinity of the desired station is reached.

Under the heading of "Marks" a description is given of the character of the markings of the "observed station" and the reference station. It will be noted that, although the "observed station" is the one "occupied" and "observed on" for horizontal angles, and also the one whose geographic position is computed, frequently it is not marked as well as the reference station, and in many instances has only a pine stub to indicate its position. This is the case for the reason that the necessity of intervisibility of landmarks usually made it compulsory to locate these stations on edges of banks and ends of points of land, which in Chesapeake Bay and tributaries generally means that they will be washed away in a short period of years. The past experience of the Coast and Geodetic Survey in this region has shown the necessity of reference marks, if the frequent reestablishment of a new framework of triangulation is to be avoided.

All the marks designated in the descriptions as "the center point of triangle on standard cement monument" are exactly alike. These monuments are made of cement, sand, and gravel, and are 2 feet long and 8 inches square at top and bottom. Their tops are all marked with the same brass mold and show a center hole surrounded by a triangle, with the letters "M. S. F. C." arranged around the vertex and the letters "U. S. C. S." underneath the base of the triangle. The center hole is always in the center of the top of the monument by construction, and if this is found to have been broken off without disturbing the bottom, the center of its square section can be used as the location of the station.

All the "standard cement monuments," whether used for marking the "observed station" or "reference station," have been planted upright in exactly the same manner, with their tops projecting 3 or 4 inches above the surface of the ground.

Therefore, as the above facts in reference to the "standard cement monuments" are a constant element in all cases, the repetition of these facts in the description of stations is made needless by this one statement.

It is the expectation that the reference stations,[a] the character of which is explained above, will be used in many cases in the near future in the place of the "observed sta-

[a] To obtain the geographic positions of any of the "observed stations" or of the "reference stations," application should be made to the Superintendent of the Coast and Geodetic Survey at Washington, D. C.

tions." This has been made possible by the careful measurements of direction and distance of these stations from the "observed station," which are recorded under the heading of "References."

Under the heading of "References" are given the directions and distances of all objects that might be useful in locating the stations when the surface marks can not be found. It is also contemplated that for general purposes of topography, hydrography, or location of boundaries of oyster bars these references will be sufficient in many cases to relocate the position of an "observed station" or reference station when both of them have been destroyed.

The first reference object given in the descriptions is always a triangulation station visible from the station being described. Its direction is taken as being 0° 00′ 00″, and the direction of all other objects are measured from it as an initial point, the angles being taken in a clockwise direction (left to right).

The true bearing [a] of the initial object is always given in parenthesis alongside the name. This furnishes means for the calculation of the bearings of any of the other reference objects for the purposes of locating a station by compass bearings or for the relocation of corner buoys of oyster-bar boundaries by the method of horizontal angles described in this publication under the heading of "Boundaries of oyster bars."

The distances in the last column under "References" are given in three different units, which vary according to their accuracy. The "miles" are statute miles and may be considered only as rough estimates. The "yards" are more accurate, but must be looked on as results generally obtained by pacing or careful estimating. The "meters," however, are accurate to the degree indicated by their decimals and in every case have been measured with a steel tape. In the same manner the accuracy of the directions are indicated by the refinement of direction with which they are recorded.

DESCRIPTIONS OF TRIANGULATION STATIONS.

SENATOR.

Locality.—Western shore of Tangier Sound, on southern side of Holland Straits and on extreme northeast point of South Marsh. (See Charts Nos. 5, 6, and 7.)

Observed station is on marsh land about 35 yards from north side and about 30 yards from east side of point. Myrtle bushes skirt shore, commencing due north, and two small pools of water are near station, one due south about 10 yards and the other southwest about 5 yards. No permanent reference points near station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Sharkfin Shoal Light" (N 16° 20′ E)	00	00	00	------	4¾ miles.
Chimney on house to right of "Haines"	31	30	--	------	4¾ miles.
Left-hand chimney of crab house on Deal Island	50	19	--	------	3½ miles.
Right end of large oyster house on Deal Island	81	59	--	------	3½ miles.
Lone pine tree	301	35	--	------	1⅞ miles.

[a] The mean magnetic variation for Somerset County for 1908 was 5° 30′ west of north and increasing at the rate of 3′ yearly.

CRAB.

Locality.—Upper end and western shore of Tangier Sound on eastern side of Bloodsworth Island about 2⅝ miles southeast of Sharkfin Shoal Light House and about halfway between Piney Island Cove to north and Great Cove to south. (See Chart No. 5.)

Observed station is about 15 yards from high-water mark to the northeast and about 35 yards from the shore to the east. A small flat-roof crab house stands about 80 yards to the north-northeast and another crab house about twice the distance in the same direction.

Marks.—Observed station is center point of triangle on standard cement monument.

References —

	°	′	″	
"Sharkfin Shoal Light" (N 45° 25′ E)	00	00	00	2⅝ miles.
Left end of large white house near Stump Point	6	11	--	7⅞ miles.
End of roof of white house on bluff	31	36	--	6¼ miles.
End of Deal Island wharf	53	03	--	3¾ miles.
Large white house near red roof one	72	35	--	4¼ miles.
Aspen tree near "Joshua"	88	06	--	5⅛ miles.
Tall pine tree	165	00	40	1½ miles.
Near end of flat-roof shanty	288	32	--	80 yards.
Flag pole on Brown's crab house	299	01	--	150 yards.

SHARKFIN SHOAL LIGHT.

Locality.—Northern end of Tangier Sound about equally distant from entrances of Hooper Strait, Fishing Bay, and Nanticoke River. (See Chart No. 5.)

Marks.—Observed station is center point of black lantern on hexagonal screw pile known as "Sharkfin Shoal Light."

References.—

	°	′	″	
"Great Shoals Light" (N 81° 45′ E)	00	00	00	5⅞ miles.

HEAD.

Locality.—Upper end of Tangier Sound, on southern part of peninsula known as "Bishops Head," situated between Hooper Strait and Fishing Bay. (See Chart No. 5.)

Observed station is on eastern side marsh land about ½ mile north of extreme southerly end of Bishops Head and about 15 yards east of two crab houses. It is about 15 yards southwest of high-water mark, behind water bushes which skirt the shore. Cement monument marking reference station is 13.41 meters west from observed station.

Marks.—Observed station is a nail in a pine stub flush with ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Sharkfin Shoal Light" (S 60° 41′ E)	00	00	00	2¾ miles.
Crab-house flagstaff	50	30	--	3¼ miles.
Large pine	97	42	--	2 miles.
REFERENCE STATION	139	55	40	13.41 meters.
Near gable of 2½-story white house	140	24	--	¼ mile.
Chimney on white house	156	44	--	⅛ mile.
Left side of crab house	166	38	--	17.31 meters.
Right side of crab house	199	54	--	16.11 meters.
Chimney on yellow house	208	28	--	1½ miles.
Chimney on end of white house	238	53	--	3 miles.
Right side of Nanticoke Point woods	326	56	--	7½ miles.

FROG.

Locality.—West shore of mouth of Nanticoke River, on the southeasterly point of Clay Island, known as "Frog Point." (See Chart No. 5.)

Observed station is on a marsh point about 25 yards back from extreme end of point, 20 yards from the east side and 25 yards from the west side. Water bushes abound back of station. There are no permanent reference objects near station. Cement monument marking reference station is 13.10 meters north of observed station.

Marks.—Observed station is nail in stub flush with ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Sharkfin Shoal Light" (S 41° 25′ W)	00	00	00	3⅛ miles.
Left tangent of Clay Island	35	17	--	1¼ miles.
REFERENCE STATION	141	45	50	13. 10 meters.
Right tangent of Sandy Point	177	41	--	¾ mile.
Chimney on white house with black roof	179	12	--	2½ miles.
Chimney on near end of large red-roof white house	183	02	--	2½ miles.
Stack on canning house	184	36	--	2½ miles.
Land end of Nanticoke wharf	184	36	--	2½ miles.
End of Nanticoke wharf house	186	00	--	2¼ miles.
Chimney on ell end of main part of large red-roof white house	211	27	--	2¼ miles.
Right tangent of Nanticoke Point woods	238	44	--	2¾ miles.
Large square chimney on white house (Dames Quarter)	264	17	--	4 miles.
Rock Creek poplar tree	284	17	--	3½ miles.
Flagstaff on Deal Island wharf	322	09	--	4¾ miles.

COW.

Locality.—Western shore Nanticoke River on Mink Point about ¼ mile east of entrance to Cow Creek. (See Chart No. 5.)

Observed station is on a very soft marsh point at the outer edge of water bushes about 5 yards back from the shore to the east, 15 yards from extreme end of point to the southeast, and 15 yards from the shore to the southwest. No permanent reference objects near station. Cement monument marking reference station is 8.68 meters northwest of observed station.

Marks.—Observed station is a nail in a pine stub flush with ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Frog" (S 6° 13′ W)	00	00	00	2 miles.
A shanty	37	16	--	¾ mile.
REFERENCE STATION	129	19	20	8. 68 meters.
White shanty	189	53	--	1 mile.
A shanty	209	52	--	½ mile.
Tangent of land	217	43	--	½ mile.
Large red roof greenhouse	236	48	--	2½ miles.
Windmill	243	52	--	2¾ miles.
Gambrel of house	244	13	--	2½ miles.
Chimney of large greenhouse	254	24	--	2¼ miles.
Canning house stack	257	28	--	1¾ miles.
Canning house stack	275	26	--	1½ miles.
Near corner of Nanticoke wharf	284	49	--	1½ miles.
Large red roof white house	297	32	--	2½ miles.
Large red roof white house	299	24	--	2½ miles.
Right tangent of Nanticoke woods	310	15	--	3 miles.
Left tangent of Sandy Point	341	48	--	1½ miles.

NANTICOKE CHURCH.

Locality.—Eastern shore of Nanticoke River in town of Nanticoke, about ¼ mile back from river and ¾ mile northeast of Roaring Point. (See Chart No. 5.)

Marks.—Observed station is center point of spire of church known as "Nanticoke Methodist Episcopal Church."

References.—None necessary.

ROAR.

Locality.—Eastern shore of Nanticoke River on point of land known as Roaring Point, and about ¼ mile north from outer end of Roaring Point wharf. (See Chart No. 5.)

Observed station is 30 yards to the east of the extreme end of the point and on a sandy knoll about 5 feet above high-water mark. It is about 20 yards back from high-water mark on the north side and about 40 yards back from high-water mark on south side of the point. Pine woods stand about 150 yards inshore from station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Frog" (S 39° 02′ W)	00	00	00	2¼ miles.
Two shanties	19	17	--	2 miles.
One shanty	30	20	--	1¾ miles.
A shanty	71	32	--	1¼ miles.
White shanty	98	53	--	1¾ miles.
Barn steeple	117	41	--	4¼ miles.
White shanty behind "Okay"	121	25	--	2¾ miles.
Red roof house	144	42	--	7¼ miles.
Twin trees on Ragged Point	159	30	--	2 miles.
Chimney on white house	175	23	--	1¼ miles.
Windmill	184	04	--	1 mile.
Gambrel roof house	184	32	--	1 mile.
White canning house stack	195	11	--	½ mile.
Land end of wharf	271	58	--	¼ mile.
Large house	293	38	--	1½ miles.
Right tangent of Nanticoke Point woods	297	22	--	2½ miles.
Right tangent of Nanticoke wharf	304	52	--	⅜ mile.
Left tangent of Sandy Point	359	51	--	1¾ miles.

NANTI.

Locality.—Eastern side of entrance to Nanticoke River about ½ mile northwest of Nanticoke Point. (See Chart No. 5.)

Observed station is on grassy land about 2 feet above and 20 yards back from high-water mark. It is about midway between edge of woods on Nanticoke Point and unpainted house near poplars ¼ mile to the north.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Sharkfin Shoal Light" (S 65° 14′ W)	00	00	00	5 miles.
Tangent of Sandy Point	51	33	--	2¼ miles.
Left end of Nanticoke wharf	89	45	--	2 miles.
Near chimney of red roof house	96	51	--	¾ mile.
Chimney of unpainted house	101	08	--	¼ mile.
Near chimney of house nearest woods	116	56	--	¼ mile.
Tree high above woods	119	53	--	2½ miles.
Right end of heavy woods	134	03	--	1¼ miles.
Right end of scant woods	147	11	--	¾ mile.

	°	′	″	
Wild cherry tree	178	24		50 yards.
Left end of woods	227	46		¼ mile.
Right end of woods	269	45		¼ mile.
Poplar tree Dames Quarter	307	28		2¾ miles.
Tangent of Haines Point	330	55		4½ miles.

WHITE.

Locality.—Eastern shore of entrance to Nanticoke River on western part of Nanticoke Point. (See Chart No. 5.)

Observed station is on a sand and grass point about 2 feet above high-water mark, 3 yards from the west side, 15 yards from the south end, and 20 yards from southeast side. Dense pine woods stand about 100 yards to the northwest, open marsh to the northeast, and a clump of about a dozen pine trees in marsh about ⅜ mile to the northeast. There is a cove about 40 yards east of the station and another point of land about 100 yards to the southeast. Cement monument marking reference station is 16.63 meters north of observed station.

Marks.—Observed station is a nail in a pine stub about 6 inches below surface of ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Great Shoals Light" (S 44°16′ E)	00	00	00	1¼ miles.
Poplar tree at Dames Quarter	65	08		2¼ miles.
Tangent of Hall Point	86	06		3¾ miles.
Tangent of Sandy Point	164	17		3 miles.
Left end of pine woods	172	27		100 yards.
Right end of pine woods	213	21		150 yards.
REFERENCE STATION	227	29	00	16.63 meters.
Largest tree in clump of about 12 pines	247	23		⅜ mile.
Chimney on cabin on Ellis Point	279	05		2 miles.
White house	311	54		½ mile.
Point of land	335	02		100 yards.

ELLA.

Locality.—North shore of Wicomico River on point at east side of entrance to Ellis Bay. (See Chart No. 5.)

Observed station is on a marsh point about 1 foot above high-water mark. It is about 10 yards back from the shore to the west, 20 yards back from the shore to the south, and 20 yards back from the shore to the north. No permanent reference objects near station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Great Shoals Light" (S 9° 49′ W)	00	00	00	2 miles.
Tangent of land on Mollies Point	5	14		1 mile.
Watch house	26	10		½ mile.
Left of woods on Nanticoke Point	44	23		1½ miles.
Right of woods on Nanticoke Point	52	33		1¼ miles.
Chimney of white house	135	45		2 miles.
Chimney of gray house	142	43		2 miles.
Chimney of white house	249	27		200 yards.
Mount Vernon Church	257	58		2¼ miles.
Chimney on middle of white house	274	28		1¼ miles.
Chimney on cream and brown house	290	49		1 mile.
Chimney on brown house	291	03		1 mile.
Smoke pipe of watch house	306	57		1 mile

HOLLAND.

Locality.—North shore of Wicomico River on Holland Point about 1¼ miles west of Mount Vernon Church, and 1¼ miles east of Ellis Bay. (See Chart No. 5.)

Observed station is on a marsh point about 20 yards north of high-water mark on its extreme end and about 100 yards west of a creek. A small cabin stands about 200 yards to the west.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Wind" (S 28° 35′ W)	00	00	00	1¼ miles.
Great Shoals Light	4	34	--	2¾ miles.
Tangent of Mollies Point	18	39	--	2 miles.
Left tangent of woods on Nanticoke Point	34	33	--	2¾ miles.
Right tangent of woods on Nanticoke Point	39	28	--	2¾ miles.
Chimney of house near Ellis Bay	46	19	--	1¼ miles
Chimney of cabin	56	14	--	200 yards.
Chimney on left end of large red roof building	91	56	--	3 miles.
Large chimney on white house	188	31	--	1¼ miles.
Chimney of slate-colored house	230	43	--	1¼ miles.
Chimney on middle of light-blue house	240	48	--	1 mile.
Chimney on 2½-story light-green house	266	41	--	¾ mile.
Right chimney on white house	317	29	--	½ mile.

CHILD.

Locality.—North shore of Wicomico River about ⅞ mile north of Mount Vernon Church. (See Chart No. 5.)

Observed station is on marsh land about 2 feet above and 15 yards back from high-water mark. There is an old wharf about 300 yards to the east and at a point about 100 yards to the north, two creeks join and form a single creek about 20 feet wide which flows into the river at a point about 15 yards west of observed station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Mount Vernon Church" (S 10° 15′ E)	00	00	00	⅞ mile.
Chimney on white house in woods on opposite shore	3	23	--	¾ mile.
Chimney on white house on sand bluff on opposite shore	15	32	--	⅝ mile.
Smoke pipe on large white house	19	55	--	¾ mile.
Chimney on brown house	48	14	--	1½ miles.
Great Shoals Light	49	33	--	3¾ miles.
Tangent of Holland Point	62	44	--	1¼ miles.
Fork of creek	183	08	--	100 yards.
Chimney of large house	206	39	--	2 miles.
Chimney of another large house	238	43	--	¾ mile.
Mount Vernon wharf smoke pipe	293	12	--	1½ miles.
Large white house in woods	324	03	--	¾ mile.
Cream-colored house in woods	345	47	--	½ mile.

CREEK.

Locality.—North shore of Wicomico River, about ¾ mile northwest of Mount Vernon wharf and about 1⅜ miles northeast of Mount Vernon Church. (See Chart No. 5.)

Observed station is on a marsh grass and sand point making out to the south and about 10 yards from the high-water mark of each of the three sides of the point. About 10 yards west of observed station is the mouth of a creek or drain 10 feet wide which runs only a short distance inland. There are several unpainted houses within 200 yards of observed station and a lone pear tree stands about 200

yards to the north. There is a cultivated field about 150 yards back of station which extends to edge of woods ¼ mile distant.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Mount Vernon Church" (S 30° 39′ W)	00	00	00	1⅜ miles.
Chimney on light-blue house with red blinds	13	46	--	1¼ miles.
Lone tree	72	59	--	1 mile.
Chimney of old unpainted house	108	18	--	300 yards.
Chimney of light-green trimmed house	135	15	--	200 yards.
Pear tree	159	48	--	200 yards.
Left chimney of cream-colored house	218	06	--	300 yards.
Tangent of cove	224	--	--	30 yards.
Smoke pipe on Mount Vernon wharf	282	34	--	¾ mile.
Chimney outside yellow house	312	04	--	⅝ mile.
Chimney on slate-colored house	352	57	--	¾ mile.

END.

Locality.—North shore of Wicomico River, opposite Mount Vernon wharf. (See Chart No. 5.)

Observed station is on marsh land about 3 feet above and about 100 yards north of high-water mark in river and about 75 yards to the northwest of a large creek which runs about 2 miles inland Water bushes skirt shore around station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Jones" (S 60° 33′ W)	00	00	00	¾ mile.
Chimney on white house	7	24	--	1 mile.
Tangent of land	12	28	--	1 mile.
Near chimney of cream-colored house	68	25	--	½ mile.
Cupola on red barn	155	21	--	¾ mile.
Old-style windmill	163	26	--	¾ mile.
Chimney of Whitehaven Hotel	171	09	--	1¼ miles.
Webster's canning house	252	28	--	½ mile.
Right hand chimney on gray house	273	42	--	½ mile.
Left side of Mount Vernon wharf	294	13	--	¼ mile
Stack of Dashiell's canning house	304	52	--	⅜ mile.
Middle attic window of white house	328	54	--	½ mile.
Chimney outside of yellow house	352	12	--	½ mile.

WALNUT.

Locality.—South shore of Wicomico River, about 175 yards east of Mount Vernon wharf. (See Chart No. 5.)

Observed station is on marsh land about 17 feet from shore and 50 yards west of a small creek. Several large walnut and locust trees stand about 250 yards south of station and 2 houses and 2 sheds about 250 yards to the southwest.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Jones" (S 83° 49′ W)	00	00	00	¾ mile.
Right side of Mount Vernon wharf house	17	18	--	175 yards.
Chimney outside of white house	46	52	--	1 mile.
Left chimney of gabled house	53	47	--	1 mile.
Old style windmill	121	00	--	½ mile.
Left end of roof of Whitehaven wharf	136	18	--	1½ miles.
Chimney of Whitehaven Hotel	136	40	--	1½ miles.
Opening between pair of pine trees near Whitehaven	140	--	--	1½ miles.

	°	′	″		
Stack of Webster's canning house	187	38	--	------	300 yards.
Opening between two walnut trees	274	--	--	------	200 yards.
Chimney of Whitlock's house	307	37	--	------	250 yards.
Stack of Dashiell's canning house	352	23	--	------	400 yards.

JONES.

Locality.—South shore of Wicomico River about ¾ mile west of Mount Vernon wharf. (See Chart No. 5.)

Observed station is on a knoll about 25 feet above and 30 yards to south of high-water mark, and about 200 yards to the east of a cove. The knoll on which the station is located is the highest point on the shore in this locality. Several small cabins stand to the northward about 25 yards, and a large lone cedar tree about 35 yards to the southwest.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Ivee" (S 78° 54′ W)	00	00	00	------	¾ mile.
Large square chimney on four-gable house	10	05	--	------	¼ mile.
Cedar tree	11	22	--	------	25 yards.
Tangent of point of land	34	54	--	------	⅛ mile.
Nail in blaze in cedar tree	62	26	--	------	20. 30 meters.
Chimney on light-green house on opposite shore	102	33	--	------	¾ mile.
White cupola in Whitehaven	148	53	--	------	2¼ mile.
Old style windmill	153	31	--	------	1½ miles
Whitehaven Hotel chimney	155	48	--	------	2¾ miles.
Large chimney on yellow house	178	37	--	------	¼ mile.
Chimney on end of brown house	216	37	--	------	½ mile.
Chimney on white house	266	42	--	------	¼ mile.
Weeping willow	307	55	--	------	¼ mile.
Nail in blaze in cedar tree	318	30	--	------	31. 10 meters.

IVEE.

Locality.—Southeast shore of Wicomico River about ¼ mile northwest of Mount Vernon Church. (See Chart No. 5.)

Observed station is on grass land about 1 foot above and 10 feet back from high-water mark. A small cove makes in about 100 yards east of station. A small lone pine stands about 110 yards to the east-southeast, and a sand bluff with pine trees about 100 yards to the southwest. Beyond the woods along the beach is a bluff 15 feet high upon which are several houses.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Mount Vernon Church" (S 22° 37′ E)	00	00	00	------	⅜ mile.
White house chimney	55	35	--	------	¼ mile.
Chimney on end of white house	209	55	--	------	2 miles.
Chimney of green-trimmed house near "Creek"	245	28	--	------	1¼ miles.
Old style windmill	264	47	--	------	2⅛ miles.
Slate-colored house	276	22	--	------	½ mile.
Chimney on middle of white house beyond woods	297	11	--	------	1 mile.
Lone pine tree	317	53	--	------	110 yards.

MOUNT VERNON CHURCH.

Locality.—Southeast side of Wicomico River about ⅜ mile back from the shore 1½ miles southwest of Mount Vernon wharf. (See Chart No. 5.)

Observed station is on main road in Mount Vernon and is situated on the highest point in the vicinity.

Marks.—Observed station is center of steeple of Mount Vernon Methodist Church.

References.—None necessary.

BALL.

Locality.—Southeast shore of Wicomico River on a point of land about 1 mile northeast of Wingate Point. (See Chart No. 5.)

Observed station is on a sand and grass point making out about 100 yards west of a sand bluff. A small creek empties into the river about 10 yards to the east, and three poplars stand about 100 yards to the south. The extreme northern end of the point is about 35 yards from station and the western side is about 10 yards.

Marks.—Observed station is center point of triangle on standard cement monument

References.—	°	′	″	
"Holland" (N 20° 03′ W)	00	00	00	½ mile.
Middle one of five pines	107	09	--	100 yards.
Chimney on John Withlock's house	137	57	--	100 yards
Left end of pine woods	145	33	--	½ mile.
Right end of pine woods	165	04	--	½ mile.
Chimney on white house	183	32	--	¼ mile.
Third poplar	209	04	--	100 yards.
Chimney of brown house	248	27	--	½ mile.

WIND.

Locality.—Southeast shore of Wicomico River about ¼ mile north of southern end of Wingate Point. (See Chart No. 5.)

Observed station is about 30 yards from high-water mark of Wicomico River on the north side and 20 yards from the west side. An oyster watchhouse stands about 100 yards to the east of the station

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Great Shoals Light" (S 36° 29′ W)	00	00	00	1½ miles.
Tangent of Mollies Point	33	35		1 mile
Left end of woods	46	12	--	1¾ miles.
Right end of woods	51	45	--	1¾ miles.
Tangent of Ellis Point	102	47	--	1 mile.
White house in woods	157	19	--	3 miles.
Smoke pipe on watchhouse	185	49	--	100 yards.
Chimney of brown house	203	38	--	½ mile.
Chimney of cream-colored house with brown trimmings	215	34		½ mile.
Watchhouse	308	41	--	¼ mile.
Chimney on 2½-story house	342	18	--	3 miles.
Chimney on end of white house Dames Quarter	350	57	--	2½ miles.

LITTLE.

Locality.—Southern shore of Monie Bay on second prominent point of marsh about ¼ mile to the west of entrance to Little Monie Creek. (See Chart No. 5.)

Observed station is on a marsh point covered with water bushes and reeds. It is about 1 foot above high-water mark, 7 yards from the west side, 10 yards from the east side, and about 50 yards from extreme end of point. No permanent reference objects near station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Great Shoals Light" (S 83° 43′ W)	00	00	00	------	2¼ miles.
Left side of woods on Nanticoke Point	19	34	--	------	3¼ miles.
Right side of woods on Nanticoke Point	22	24	--	------	3½ miles.
Tangent of Wingate Point	34	39	--	------	1½ miles.
Chimney on red roof white house	60	13	--	------	1½ miles.
Chimney on near end of white house with brown trimmings	62	02	--	------	1½ miles.
Chimney on red roof white house with green blinds	62	43	--	------	1½ miles
Left chimney of yellow house trimmed white	79	52	--	------	1¼ miles
Middle of woods	80	--	--	------	1¾ miles
Large brown house	93	55	--	------	1¾ miles.
Mount Vernon Church	102	42	--	------	1¾ miles.
Tangent of point of land	165	47	--	------	¼ mile.
Tangent of point of land	320	16	--	------	75 yards.
Tangent of land	346	47	--	------	3 miles.

DOVE.

Locality.—South shore of Monie Bay and about ¼ mile east of entrance to Pigeon Creek. (See Chart No. 5.)

Observed station is on marsh land about 10 yards back from high-water mark not far from water bushes which stand to the east. Cement monument marking reference station is 13.98 meters southeast from observed station. No permanent reference objects near station.

Marks.—Observed station is a nail in pine stub flush with ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Great Shoals Light" (N 57° 41′ W)	00	00	00	------	1¼ miles.
Left side of Nanticoke Point woods	6	56	--	------	2¾ miles.
Left side of Roaring Point heavy woods	19	29	--	------	5 miles.
High lone pine showing above woods	23	36	--	------	5 miles.
Tangent of Wingate Point	52	52	--	------	2 miles.
Chimney of red roof house	67	39	--	------	2 miles.
Chimney on yellow house with red gable roof	84	12	--	------	3 miles.
Mount Vernon Church	86	37	--	------	3¼ miles.
Tangent of land	106	38	--	------	300 yards.
REFERENCE STATION	202	35	50	------	13.98 meters.
Chimney of white house with dark red trimmings	245	21	--	------	1¼ miles.

GREAT SHOALS LIGHT.

Locality.—Middle of entrances to Monie Bay and Wicomico River about halfway between Long Point to the south and Mollies Point to the north. (See Chart No. 5.)

Marks.—Observed station is center of black lantern on square screw pile structure known as "Great Shoals Light."

References.—

	°	′	″		
"Sharkfin Shoal Light" (S 81° 50′ W)	00	00	00	------	5⅞ miles.

SHORT.

Locality.—Southern shore of entrances to Monie Bay and Wicomico River on Long Point and about 1 mile south-southwest from Great Shoals Light. (See Chart No. 5.)

Observed station is on a sandy knoll on eastern side of entrance to Dames Quarter Creek about 15 feet back from high-water mark on the north side and about 30 feet from east side of point. It is on the highest part of the knoll which is about 5 feet above high-water mark.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Sharkfin Shoal Light" (S 89° 03′ W)	00	00	00	5⅜ miles.
Tile pipe in cement ("Long " 1901)	23	57	45	63.703 meters.
Nanticoke wharf	67	57	--	4⅛ miles.
Left side of Nanticoke woods	69	13	--	2 miles.
Yellow house with red blinds	74	53	--	3½ miles.
Left tangent of Wingate Point	124	13	--	2⅜ miles.
Chimney on red roof white house	132	39	--	3 miles.
Near chimney of yellow house	136	40	--	3 miles.
Chimney on red trimmed house	212	49	--	2 miles.
Left tree at Dames Quarter	260	37	--	¼ mile.
Chimney on white barn	279	45	--	300 yards.
Left chimney on white house	320	05	--	200 yards.
Chimney on yellow house	341	35	--	200 yards.

ROOM.

Locality.—Upper end and eastern shore of Tangier Sound on Halls Point. (See Chart No. 5.)

Observed station is on a bluff 15 feet high about 5 yards back from its edge. It is about 25 yards east of a clump of mulberry trees and about 15 yards north-northwest of a barn. Locust and mulberry trees stand all about station and locust bushes along the edge of the bluff. A wagon trail runs parallel to the shore about 15 yards back of station. Cement monument marking reference station is 21.45 meters south-southwest of observed station and almost in line with a large mulberry tree.

Marks.—Observed station is nail in center of stub with top flush with ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Sharkfin Shoal Light" (N 70° 00′ W)	00	00	00	2½ miles.
Gable on near side of red roof on white house on Bishop's Head	3	01	--	5½ miles.
Near end of roof of large 2½-story house	12	53	--	7¼ miles.
Left tangent of Clay Island	39	18	--	3½ miles.
Left side of Sandy Point woods	70	08	--	4 miles.
Roaring Point wharf	85	22	--	5 miles.
Near chimney on end of large red roof white house	94	36	--	4¼ miles.
Right side of Nanticoke woods	110	28	--	3¾ miles.
Mount Vernon Church	127	18	--	7 miles.
Near corner of barn	137	06	--	15.96 meters.
Right hand corner of barn	152	08	--	18.11 meters.
REFERENCE STATION	268	30	00	21.45 meters.
Large cedar tree	276	30	--	100 yards.
Two-inch iron pipe	279	38	30	9.21 meters.

HAINES.

Locality.—Upper end and eastern shore of Tangier Sound on Haines Point, about ⅝ mile north of Deal Island Wharf. (See Chart No. 5.)

Observed station is on sand and grass point about 20 yards back and 5 feet above high-water mark. Locust and water bushes stand about 20 yards to the north and the left edge of this clump is about on

line with Sharkfin Shoal Light. A barbwire fence runs 3 yards east of station. Cement monument marking reference station is 9.64 meters east of observed station.

Marks.—Observed station is nail in pine stub in center of a drain tile with top broken off below surface. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Sharkfin Shoal Light" (N 45° 58′ W)	00	00	00	2½ miles.
Left of bushes	39	57		20 yards.
Left of Sandy Point woods	53	38		4¾ miles.
Chimney of 2½-story white house trimmed with red	75	04		½ miles.
Chimney of unpainted house	85	49		350 yards.
Chimney on end of red cottage trimmed white	99	00		¾ mile.
REFERENCE STATION	123	40	40	9.64 meters.
Pine tree	148	37	30	2.14 meters.
Large square chimney on red house	152	49		400 yards.
Right one of 5 large pines	184	40		300 yards.
Half way between chimneys on store on Deal Island	213	08		¾ mile.
Deal Island Church	217	00		1¼ miles.
Black gum tree	223	49		6.70 meters.
Right end of Deal Island wharf	234	10		½ mile.
Hooper Straits Light	343	34		7½ miles

DEAL ISLAND CHURCH.

Locality.—Deal Island on main road about ¼ mile from the shore and about ¾ mile south of Laws Thoroughfare. (See Chart No. 5.)

Marks.—Observed station is center of steeple on Deal Island Methodist Church.

References.—None necessary.

BAR.

Locality.—Eastern shore of Tangier Sound on western side of Deal Island, about 1 mile northwest of entrance to Lower Thoroughfare and ¼ mile south of Middle Creek. (See Charts Nos. 5 and 7.)

Observed station is about 10 yards east of high-water mark on sand and grass land back of sandy beach. The first of many tree stumps which are submerged at high water commence about 100 yards to the north and cat-tails grow abundantly back of station. Cement monument marking reference station is 6.09 meters east of observed station.

Marks.—Observed station is a nail in pine stub flush with ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Sharkfin Shoal Light" (N 19° 40′ W)	00	00	00	4½ miles.
Tangent of Haines Point	27	29		2½ miles.
Flag pole on large building on Deal Island wharf	28	45		2 miles.
Middle chimney of large gray building	37	41		1 mile.
Chimney on white house	59	54		400 yards.
Middle chimney on red roof white house	79	51		⅜ mile.
REFERENCE STATION	107	10	00	6.09 meters.
Chimney on white house	118	43		400 yards.
Chimney on dark gray house	161	57		300 yards.
Right chimney on white four-gabled house with red roof	176	39		½ mile.

JEAN.

Locality.—Northern shore of Manokin River on a marsh point on the west side of entrance to Geanquakin Creek. (See Charts Nos. 5 and 7.)

Observed station is on low marsh land about 35 yards back from extreme end, 30 yards from east side and 40 yards from north side of point. Pine woods stand about ⅛ mile back from station. There are no permanent reference objects near station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Fairmount Church" (S 39° 13′ E)	00	00	00		3¾ miles.
Chimney on cabin standing near two others	145	48	--		¾ mile.
Left end of cabin in woods	238	05	--		1¼ miles.
Chimney of William Muir's store	301	07	--		1¼ miles.
Cupola on barn ("Barn")	324	58	--		2⅝ miles.
Chimney of house near "Staff"	358	45	--		1¼ miles.

SANDY.

Locality.—Northern shore of Manokin River on point of land known as Sandy Point opposite Fishing Island. (See Charts Nos. 5 and 7.)

Observed station is on a sandy point about 5 feet above and 10 yards back from high-water mark on south side of point and about 75 yards from high-water mark on west side. A sandy beach is building out to southward and a heavy clump of myrtle bushes extends from a point about 25 yards west to a point about 75 yards west.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Fairmount Church" (S 7° 54′ E)	00	00	00		2¼ miles.
Bell tower on oyster house ("Cupola")	30	58	50		⅜ mile.
Flag staff on oyster house ("Staff")	65	43	50		1⅛ miles.
Chimney on William Muir's store	137	42	--		¾ mile.
Chimney on store cabin	196	18			⅝ mile.
Right end of roof	254	03	--		1 mile.
Cupola on barn ("Barn")	307	15	40		¾ mile.

HOLLAND ISLAND BAR LIGHT.

Locality.—Easterly side of Chesapeake Bay off entrance to Kedge Straits, about 2¾ miles south of Holland Island, 2½ miles southwest of South Marsh, and 3¾ miles northwest of Smith Island. (See Chart No. 6.)

Marks.—Observed station is center point of black lantern on hexagonal screw pile structure known as "Holland Island Bar Light."

References.—

	°	′	″		
"Solomons Lump Light" (S 72° 06′ E)	00	00	00		4¾ miles.

SOLOMONS LUMP LIGHT.

Locality.—Kedge Straits about ½ mile north of Smith Island and about 1½ miles south of South Marsh. (See Charts Nos. 6 and 7.)

Marks.—Observed station is center of black lantern on square tower on northerly side of a caisson and octagonal structure known as "Solomons Lump Light."

References.—

	°	′	″		
"Janes Island Light" (S 42° 12′ E)	00	00	00		7⅞ miles.

FOG.

Locality.—Eastern shore of Chesapeake Bay and southern shore of Kedge Straits on northwest point of Smith Island known as "Fog Point." (See Chart No. 6.)

Observed station is on the north side of a sand and grass point about 1 foot above high-water and about 65 yards from extreme end of point to northeast and 6 yards south-southeast from shore. The

remains of old "Fog Point Light House" are about 50 yards to west-southwest, and myrtle bushes abound on all sides except on the west side, which is a sandy beach. Cement monument marking reference station is 15.26 meters south from observed station and about in line with a lone cherry tree ¼ mile distant.

Marks.—Observed station is nail in center of tile pipe with top flush with surface of ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Solomons Lump Light" (N 59° 22′ E)	00	00	00	1¾ miles.
Tangent of point of land	13	08	--	¾ mile.
Large tree near two smaller ones	22	41	--	1½ miles.
Lone pine tree	89	28	--	1 mile.
REFERENCE STATION	121	18	30	15.26 meters.
Large lone cherry tree	121	26	--	¼ mile.
First one of two trees	133	43	--	½ mile.
Old light-house foundation	193	47	--	50 yards.
First tree on Holland Island	272	37	--	5¾ miles.

JOSEPH.

Locality.—Eastern shore of Chesapeake Bay and western side of Smith Island, about 3 miles southwest from Solomons Lump Light and about ½ mile north of entrance to Smith Island Thoroughfare (See Charts Nos. 6 and 8.)

Observed station is on marsh land about 30 yards back from edge of sandy shore. There is nothing but marsh grass for ¼ mile on all sides except a slough about 30 yards wide, which begins about 60 yards southeast of observed station and runs south to Smith Island Thoroughfare. Cement monument marking reference station is 38.74 meters northeast of station and is nearly on line with Solomons Lump Light.

Marks.—Observed station is nail in stub flush with ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Solomons Lump Light" (N 40° 47′ E)	00	00	00	3 miles.
REFERENCE STATION	00	13	55	38.74 meters.
Tall lone tree	20	42	--	1¼ miles.
Right-hand one of two pines	58	35	--	½ mile.
Right end of slough	69	43	--	60 yards.
Smith Island North Church	103	33	--	1½ miles.
Gable on front of 2½-story house	109	28	--	1¼ miles.
"Smith Island Old Church"	128	01	--	3⅓ miles.

TERRAPIN.

Locality.—Western shore of Tangier Sound on extreme northeast point of Smith Island, known as "Terrapin Sand Point." (See Chart No. 7.)

Observed station is on the northeast side of a marsh point about 50 yards west of the extreme end and 35 yards southwest of high-water mark on northeast side. A clump of myrtle bushes stands on point about 150 yards southwest of the station. There are no permanent reference objects near station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Janes Island Light" (S 37° 40′ E)	00	00	00	4⅝ miles.
Left end of myrtle bushes	65	13	--	150 yards.
Smith Island Church	80	25	--	4 miles.
Lone tree to right of another tree	85	23	--	7 miles.
Solomons Lump Light	169	20	--	3⅜ miles.
Point of this island	214	03	--	150 yards.

MILES.

Locality.—Western shore of Tangier Sound on eastern side of the lower half of South Marsh. (See Chart No. 7.)

Observed station is on a marsh point making out about 75 yards south of entrance to small creek, which is middle one of three on this shore of the island. Station is about 50 yards south of the north side and about 60 yards west of extreme end of point. A row of myrtle bushes stands east of the station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Sharkfin Shoal Light" (N 8° 33′ E)	00	00	00	7⅜ miles.
Deal Island Church	29	26	--	5¼ miles.
End of roof of white house among trees, Deal Island	33	48	--	4¼ miles.
Tangent of near point of land	155	35	--	¼ mile.
Solomons Lump Light	178	56	55	3¼ miles.
Third (first large) tree from left	231	57	--	⅞ mile.
Lone pine tree	330	27	--	4¼ miles.

JOSHUA.

Locality.—Eastern shore of Tangier Sound on western side of Little Island, about ⅛ mile southeast from extreme eastern point of island. (See Chart No. 7.)

Observed station is on northern half of a sand dune about 10 feet above and 20 feet back from high-water mark. The southern half of the sand dune is covered with bushes and scrub trees. A large aspen tree stands about ¼ mile north of the station. Cement monument marking reference station is located on low land 32.06 meters north of observed station, and is nearly on line with large aspen tree.

Marks.—Observed station is a nail in pine stub flush with ground and is likely to be disturbed by shifting of sand dune. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Solomons Lump Light" (S 37° 41′ W)	00	00	00	5⅞ miles.
Tall pine tree on opposite shore of Tangier Sound	81	48	--	5½ miles.
Center point of square roof house on Deal Island	129	32	--	1¾ miles.
Large aspen tree	160	08	--	¼ mile.
REFERENCE STATION	160	19	20	32.06 meters.
Nail in blaze in peach tree (1½ inches in diameter)	259	40	--	30.74 meters.
Tangent point of island	290	48	--	¼ mile.

KELLEY.

Locality.—Northern shore of Manokin River on Kelley Island, which is located off point between Fishing Creek and Laws Thoroughfare just inside of entrance to Laws Thoroughfare. (See Chart No. 7.)

Observed station is on a small point making off southern side of a marsh island known as "Kelley Island." It is about 8 yards from the east side and about 12 yards from west side of point. Myrtle bushes grow about 5 yards to west and north of observed station and a crab shanty stands on northern end of island about 100 yards north from station. Cement monument marking reference station is 10.44 meters northeast of observed station.

Marks.—Observed station is center of a square wooden box with top just above ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Fairmount Church" (S 70° 41′ E)	00	00	00	6¼ miles.
Pine to left of two others	18	38	--	3¾ miles.
Left end of new house	23	37	--	4 miles.
Aspen tree near "Joshua"	130	32	--	2½ miles.

	°	′	″		
Chimney on very large white house on Deal Island	167	51	--	------	2 miles.
Crab house on Kelley Island	253	29	--	------	100 yards.
REFERENCE STATION	283	57	10	------	10.44 meters.

MARSH.

Locality.—Northern shore of Manokin River on a small marshy island on eastern side of entrance to Fishing Creek. (See Chart No. 7.)

Observed station is on southern part of a small marshy island about 25 feet from the south side, 30 feet from the northeast side, and 10 feet from west side of the island. Cement monument marking reference station is 24.34 meters northwest of observed station.

Marks.—Observed station is a nail in a pine stub in center of square wooden box. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Fairmount Church" (S 64° 47′ E)	00	00	00	------	4⅞ miles.
Pine to the left of two other pines	31	45	--	------	2¾ miles.
Right side of house on Deal Island	143	10	--	------	2½ miles.
REFERENCE STATION	222	22	20	------	24.34 meters.
Chimney of cabin in woods	306	37	--	------	2½ miles.
Right-hand end of crab house	336	22	--	------	¾ mile.

ST. PIERRE.

Locality.—Manokin River on a small marsh island known as "St. Pierre Island." (See Chart No. 7.)

Observed station is on west side of island about 20 yards from the shore to the west and about 30 yards from the shore to the south. A clump of myrtle bushes stand about 15 yards northwest of station, and the shore of a small bay is about 30 yards to the east. Cement monument marking reference station is 7.97 meters east-southeast of observed station and on line to "Fairmount Church."

Marks.—Observed station is a nail in pine stub in center of square wooden box. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Fairmount Church" (S 59° 49′ E)	00	00	00	------	3⅜ miles.
REFERENCE STATION	00	00	00	------	7.97 meters.
Chimney on house with two ells	57	15	--	------	1¾ miles.
Pine tree to the left of two others	58	52	--	------	2 miles.
Left end of roof of white house	61	09	--	------	1⅞ miles.
Left end of crab house near Muddy Cove	188	14	--	------	1¾ miles.
Chimney on cabin	258	54	--	------	1¼ miles.
Chimney on Muir's store	301	22	--	------	2¼ miles.
Right-hand chimney on yellow house	313	44	--	------	4 miles.

LOCUST.

Locality.—Western shore of upper Manokin River, about ¼ mile north of Locust Point. (See Chart No. 7.)

Observed station is on marsh land about 12 yards west from shore of river and about 12 yards north from a small creek. Myrtle bushes extend alongside of river and creek. There are no other permanent reference marks near station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Barn" (S 12° 48′ E)	00	00	00	------	⅞ mile.
Bell cupola on oyster house ("Cupola")	52	35	--	------	1 mile.
Chimney on white house	219	20	--	------	⅝ mile.
Chimney on cabin near "Wab"	244	22	--	------	1¼ miles.
North chimney on brick house ("Pen")	267	04	--	------	1 mile.
Chimney of cabin near "Cox"	287	22	--	------	⅝ mile

FITZ.

Locality.—Northwestern shore of upper Manokin River, about 1 mile northeast from Locust Point. (See Progress Map.)

Observed station is on the edge of the lawn of a large old red brick house owned by Mr. Fitzgerald, about 4 yards west of shore and 23 yards southwest of extreme end of point. Four locust trees, each 8 inches in diameter, stand back of station, and there is a cobblestone about 12 inches in diameter about 2 yards to the east. There is a small pond 20 yards to the north of the station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Fairmount Church" (S 10° 50′ W)	00	00	00	3⅜ miles.
Bell cupola on oyster house ("Cupola")	29	05	--	1⅝ miles.
Chimney of white house	38	35	--	½ mile.
Nail in blaze in locust tree (8 inches diameter)	105	02	--	5.42 meters.
Near corner of brick house	139	34	--	100 yards.
Nail in blaze in locust tree (8 inches in diameter)	208	52	--	6.24 meters
Chimney of unpainted house	224	02	--	½ mile.
Chimney of cabin near "Wab"	237	52	--	½ mile.
North chimney on large brick house ("Pen")	287	58	20	⅝ mile.

WAB.

Locality.—North shore of upper Manokin River on a point on the western side of entrance to Goose Creek. (See Progress Map.)

Observed station is on a shell and marsh point about 10 feet back from both sides of point and about 3 feet above high-water mark. A small shanty stands directly west of station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Pen" (S 1° 32′ E)	00	00	00	½ mile.
Left-hand corner of shanty	80	01	--	19.46 meters.
Next corner of shanty	90	58	--	18.77 meters.
Chimney of two-story unpainted house	107	50	--	250 yards.
Lone pine	165	07	--	250 yards.
Chimney on middle of red roof on white house east	254	34	--	½ mile.
Easterly chimney of white house on opposite shore	280	15	--	½ mile.

PEN.

Locality.—Southeastern shore of upper Manokin River on Clifton Point. (See Progress Map.)

Observed station is northern chimney of a large 2½ story, 4-gable roof, brick house belonging to Mr. Pendelton. The house is back from the river, and there are trees between it and the shore.

Marks.—Observed station is center of northern chimney on house belonging to Mr. Pendelton.

References.—None necessary.

COX.

Locality.—Eastern shore of upper Manokin River on marsh point about ¾ mile north of entrance to Back Creek. (See Chart No. 7.)

Observed station is about 15 yards east and 10 yards south of high-water mark. A small building stands in the water about 20 feet from bank to the northeast of station, and Bennett's oyster watchhouse is about 15 yards east of station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Fairmount Church" (S 15° 34′ W)	00	00	00	------	2¾ miles.
Cupola on barn ("Barn")	10	37	--	------	⅞ mile.
Bell cupola on oyster house ("Cupola")	43	51	--	------	1½ miles.
Chimney of white house	111	27	--	------	¾ mile.
West corner of roof brick of house on opposite shore near "Fitz"	151	33	--	------	¾ mile.
Cabin near "Wab"	189	33	--	------	⅛ mile.
Left corner of watchhouse	266	45	--	------	17. 20 meters.
Near corner of watchhouse	274	58	--	------	14. 13 meters.

GREEN.

Locality.—Upper Manokin River on eastern shore about ¼ mile north of entrance to Back Creek. (See Chart No. 7.)

Observed station is on grassy land about 10 yards east of a sandy beach adjoining a marsh point, and is about 3 yards north of curve in road. Two small locust trees stand about 3 yards distant, one to the northwest and the other to the east of station. A cedar tree 10 inches in diameter stands about 10 yards to the south.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Fairmount Church" (S 18° 53′ W)	00	00	00	------	2½ miles.
Left chimney of white house	7	59	--	------	¾ mile.
Cupola on barn ("Barn")	25	23	50	------	¾ mile.
Pine tree to the right of two others	35	50	--	------	4½ miles.
William Muir's store chimney	84	55	--	------	1¾ miles.
Nail in blaze on tree (3 inches diameter)	107	01	--	------	3. 65 meters.
Chimney on white house	126	11	--	------	¾ mile
Tangent of point of land	141	18	--	------	100 yards.
Nail in blaze on tree (10 inches diameter)	342	09	--	------	8. 90 meters.

BARN.

Locality.—South shore of Manokin River on prominent point of land between Wolf Trap and Back creeks. (See Chart No. 7.)

Marks.—Observed station is center point of cupola on a large red frame structure used as a barn on farm of Hershel Ford.

References.—None necessary.

CUPOLA.

Locality.—South shore of Manokin River on north end of Fishing Island. (See Chart No. 7.)

Marks.—Observed station is center point of top of bell cupola on Bennett's oyster house.

References.—None necessary.

STAFF.

Locality.—Southern shore of Manokin River on eastern side of entrance to Broad Creek, about ¼ mile southeast of Cormal Point. (See Chart No. 7.)

Marks.—Observed station is flagstaff on eastern end of roof of oyster house on Cox's wharf.

References.—None necessary.

FAIRMOUNT CHURCH.

Locality.—Town of Upper Fairmount about halfway between Manokin and Big Annemessex rivers. (See Chart No. 7.)

Marks.—Observed station is center point of steeple on Fairmount Methodist Church.

References.—None necessary.

PRICKLY.

Locality.—Eastern shore of Tangier Sound and southeastern side of entrance to Manokin River on a small point ¼ mile south of Prickly Point. (See Chart No. 7.)

Observed station is on a sandy spot about 5 feet above and 30 yards back from high-water mark on west side and about 35 yards from end of point to northwest. About 10 feet southeast of station is a clump of myrtle bushes, and 7 to 18 yards back of these is a small group of pine trees.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"St. Pierre" (N 17° 33′ E)	00	00	00	------	3⅛ miles.
Pine tree to left of two others	26	54	--	------	1½ miles.
Chimney of gray house	39	22	--	------	¼ mile.
Pointed cupola on building through trees	49	54	--	------	¾ mile.
Near end of roof of house	52	25	--	------	1 mile.
Nail in blaze in tree	68	03	--	------	19.69 meters.
Left end of white house	93	46	--	------	1¼ miles.
Left end of roof of yellow house	101	01	--	------	¾ mile.
Nail in blaze in tree	125	29	--	------	23.07 meters.
Chimney on gray house on next point	163	02	--	------	⅝ mile.
Tangent of point of land	332	04	--	------	⅛ mile.

HAS.

Locality.—Eastern shore of Tangier Sound on point at north side of entrance to Big Annemessex River about halfway between Porpoise Point and Two Mouth Creek. (See Chart No. 7.)

Observed station is on a sand dune about 10 feet above and 30 yards back from high-water mark to the west. A pool averaging 40 feet by 100 feet stands 50 feet east of observed station. Cement monument marking reference station is 5.21 meters east of observed station and about on line to Fords wharf.

Marks.—Observed station is a nail in a pine stub with top flush with ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Solomons Lump Light" (S 84° 12′ W)	00	00	00	------	7¾ miles.
Tangent of point of land	12	02	--	------	⅛ mile.
Chimney of house among trees	92	10	--	------	1⅜ miles.
Right end of white house roof	117	54	--	------	2 miles.
Chimney on large unpainted house	129	46	--	------	¾ mile.
REFERENCE STATION	179	11	45	------	5.21 meters.
Tower on Odd Fellows Building, Crisfield	265	50	--	------	5⅜ miles.

FORD.

Locality.—North shore of Big Annemessex River on south side of Jerico Marshes just east of Muddy Creek. (See Chart No. 7.)

Observed station is chimney on roof of oyster house near Fords wharf. Chimney is a little east of middle of roof.

Marks.—Observed station is center of chimney on roof of oyster house.

References.—None necessary.

MOON.

Locality.—North shore of Big Annemessex River on point between Moon Bay and Crane Cove. (See Chart No. 7.)

Observed station is on a marsh point about 35 yards from extreme end, 25 yards from east side and 30 yards from south side. A small pool stands about 10 yards south of observed station and a crescent-shaped pool about 10 feet wide and 100 feet long extends from a point about 20 yards west to a point about 20 yards north of station. A row of small myrtle bushes begins at a point directly south of

observed station, extends along shore toward the east, and ends at Moon Bay. Another lot of small myrtle bushes begins at a point about 100 yards west of observed station and extends along the shore to the west. There are no other points of reference near station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Ford" (N 75° 41′ W)	00	00	00	------	1⅝ miles.
Eastern end of cabin roof	59	06	--	------	1½ miles.
Chimney on cabin	83	12	--	------	1¾ miles.
Chimney on cabin	85	44	--	------	1¾ miles.
Peak of center gable of red roof house	104	45	--	------	2½ miles.
Near end of old 2½-story house	117	00	--	------	1⅝ miles.
Western chimney of square roof house	189	47	--	------	1 mile.
Eastern end of white house roof	202	18	--	------	1¼ miles.
Eastern end of roof of large barn	229	30	--	------	1 mile.
Chimney on house ("Colburn")	262	16	--	------	¾ mile.
Chimney on middle of long barn	267	16	--	------	¾ mile.
Tangent of point of land	328	28	--	------	⅝ mile.

COLBURN.

Locality.—South shore of Big Annemessex River on southeastern side of entrance to Colburn Creek (See Chart No. 7.)

Observed station is chimney on top of a modern several gable house. House sets alone about halfway between oyster houses to the west and a group of houses to the east.

Marks.—Observed station is center of chimney on top of modern several gabled house.

References.—None necessary.

GEOG.

Locality.—South shore of Big Annemessex River on point on east side of a square-shaped inlet about ¾ mile northeast of the entrance to Jones Creek. (See Chart No. 7.)

Observed station is on marsh land about 50 yards back form extreme end of point, about 20 yards from southeast corner of square-shaped bay and about 25 yards from east shore line. Myrtle bushes extend along shore to the east of station for about 100 yards, and reeds grow 25 yards to the north.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Has" (N 71° 44′ W)	00	00	00	------	2¾ miles.
Nearest end of red roof on opposite shore	40	43	--	------	3¾ miles.
Pine tree to the right of two others	47	17	--	------	4¼ miles.
Chimney on oyster house ("Ford")	57	22	--	------	1½ miles.
Center gable of red house	109	37	--	------	3⅞ miles.
Chimney on middle of dark red oyster house	155	25	--	------	1 mile.

FLAT CAP.

Locality.—Eastern shore of Tangier Sound and about ½ mile south of Flat Cap Point on south side of entrance to Big Annemessex River. (See Chart No. 7.)

Observed station is on a sand dune about 10 yards back and 10 feet above high-water mark. A sandy beach extends along shore for about 100 yards in both directions and remainder of land is grassy. A slough begins at a point about 50 yards southeast of observed station and extends south. Cement monument marking reference station is 13.64 meters east of observed station.

Marks.—Observed station is a 1½-inch iron pipe with top flush with the surface of the ground Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Solomons Lump Light" (N 81° 14′ W)	00	00	00	------	7¾ miles.
Left end of roof of white house near Prickly Point	90	21	--	------	2½ miles.

	°	′	″		
Right end of long building in woods	169	09	--	------	2½ miles.
REFERENCE STATION	179	22	40	------	13.64 meters.
Tower of Odd Fellows building, Crisfield	243	06	--	------	3¼ miles.
Lone smokestack on Crisfield Ice Plant	251	31	--	------	3¾ miles.
Fish factory stack Janes Island	271	36	--	------	4¼ miles.

SMITH POINT LIGHT.

Locality.—Western side of Chesapeake Bay on southern side of entrance to Potomac River and about 3 miles east by south of Smith Point. (See Chart No. 8.)

Marks.—Observed station is center point of black lantern on caisson and brick structure known as "Smith Point Light."

References.—

	°	′	″		
"Holland Island Bar Light" (N 20° 13′ E)	00	00	00	------	13¾ miles.

NORTH CHURCH (SMITH ISLAND).

Locality.—In town of Ewell on group of marsh islands known as "Smith Island." (See Chart No. 8.)

Observed station is on solid land on south shore of Smith Island Thoroughfare about 1 mile from the eastern shore of Chesapeake Bay.

Marks.—Observed station is center point of spire of church known as "Corinth Methodist Episcopal Church."

References.—None necessary.

OLD CHURCH (SMITH ISLAND).

Locality.—Western side of the group of marsh islands known as "Smith Island" on solid land about ⅜ mile from the eastern shore of Chesapeake Bay and ⅛ mile east of upper end of Shanks Creek at Rhodes Point. (See Chart No. 8.)

Marks.—Observed station is center point of spire of church known as "Calvary Methodist Episcopal Church."

References.—None necessary.

EWELL CHURCH (SMITH ISLAND).

Locality.—In town of Tylerton near the center of the group of marsh islands known as "Smith Island" on solid land about ⅛ mile east of the narrowest part of waters joining Tylers Creek and Tylers Ditch. (See Chart No. 8.)

Marks.—Observed station is center point of spire of church known as "Union Methodist Episcopal Church."

References.—None necessary.

SHANKS HAMMOCK.

Locality.—Eastern shore of Chesapeake Bay on Shanks Island, which is located in Virginia about ¾ mile east of the southern end of Smith Island. (See Chart No. 8.)

Observed station is on the northeast side of the island, on low ground about ½ mile from its northern end about 70 yards back from shore and 110 yards from end of point to east. It is near the southern extremity of a hummock covered with a dense growth of scrub trees and bushes and is about 35 yards north of a pile of brick, the ruins of a house. Cement monument marking reference station is 1.43 meters southwest of observed station.

Marks.—Observed station is center of a 4-inch tile pipe with top just below the surface of the ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Smith Point Light" (S 69′ 16″ W)	00	00	00	------	8¼ miles.
Smith Island Corinth Church (North Church)	115	50	00	------	5 miles

	°	′	″		
Smith Island Union Church (Ewell Church)	130	13	00	------	3¾ miles.
Horse Hammock poplar	161	33	--	------	3½ miles.
Right tangent of point	168	28	--	------	110 yards.
Pine tree	185	39	--	------	¾ miles.
Stove pipe on large crab house	207	07	--	------	2½ miles.
"Fox Island Poplar"	214	47	40	------	7¾ miles.
Pile of brick, the ruins of a house	273	--	--	------	35 yards.
REFERENCE STATION	349	06	20	------	1.43 meters.

REACH HAMMOCK.

Locality.—South end and eastern side of Tangier Sound on Reach Hammock Island, which is located between Smith and Tangier islands about 1 mile east of Fishbone Island. (See Chart No. 9.)

Observed station is on the northeastern end of a small marshy island known as Reach Hammock and is about 5 feet from the present shore line, which is rapidly washing away. It is close to a small fish fertilizer factory which stands on the island. Cement monument marking reference station is 9.10 meters east by south of observed station.

Marks.—Observed station is the center of a 6-inch tile pipe with top flush with surface of the ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Fox Island Poplar" (N 77° 04′ E)	00	00	00	------	4¼ miles.
Left corner of brick work of factory	85	07	--	------	6.68 meters.
Right corner of brick work	97	12	--	------	7.31 meters.
Near corner of shed	109	03	--	------	18.32 meters.
REFERENCE STATION	169	02	30	------	9.10 meters.
Chimney of small house	185	08	--	------	45 yards.
Left edge of house	208	51	--	------	1¼ miles.
Right edge of roof of right-hand house	210	01	--	------	1¼ miles.
Chimney of 2½-story house on Herring Island	236	38	--	------	2 miles.
Tallest pine Smith Island	242	39	--	------	4¼ miles.
Poplar near Horse	275	48	--	------	5 miles.
"Janes Island Light"	314	55	--	------	6¾ miles.

FISHBONE.

Locality.—Dividing waters of Chesapeake Bay and Tangier Sound on western side of Fishbone Island, which is located between Smith and Tangier islands. (See Chart No. 9.)

Observed station is on marsh ground about 15 yards from shore to the west and about halfway between northern and southern extremities of island. The station is about level with high-water mark, but there is a slight elevation between station and shore and a small shanty stands about 20 yards to the southwest. Cement monument marking reference station is 10.08 meters south of observed station and about on line with shanty.

Marks.—Observed station is a nail in stub flush with surface of ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Janes Island Light" (N 40° 34″ E)	00	00	00	------	7¼ miles.
"Fox Island Poplar"	39	19	--	------	5½ miles.
Chimney on house on Reach Hammock	58	49	--	------	1¼ miles.
REFERENCE STATION	158	30	50	------	10.08 meters.
Near corner of shanty	159	49	--	------	17.44 meters.
Chimney on 2½-story house on Herring Island	306	32	--	------	1¼ miles.
Peak of left house	349	32	--	------	200 yards.
Stove pipe on flat roof shanty	356	41	--	------	200 yards.

HORSE.

Locality.—West shore of Tangier Sound on east shore of Smith Island at point known as "Horse Hammock." (See Chart No. 9.)

Observed station is about 10 yards off shore in 2 feet of water at low-tide, between shore and northernmost row of piling. Several trees stand on bank near station. Cement monument marking reference station is 27.12 meters west of observed station and 20 yards back from shore.

Marks.—Observed station is stake in water. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Janes Island Light" (N 80° 19′ E)	00	00	00	------	4¼ miles.
Somers Cove Light	1	30	00	------	6½ miles.
High pile	15	27	30	------	8.41 meters.
Fox Island Poplar	49	25	50	------	6¼ miles.
Left tangent of Smiths Island	106	45	--	------	150 yards.
Near corner of old cedar	146	02	--	------	32.42 meters.
Blaze in tree	155	41	--	------	14.21 meters.
Blaze in tree	166	27	--	------	25.92 meters.
REFERENCE STATION	174	15	30	------	27.12 meters.
Blaze in poplar	174	40	30	------	45.74 meters.
Pile extending above row of piles	309	08	--	------	16.66 meters.
High pile	333	03	--	------	9.80 meters.
Ice factory stack	355	07	--	------	7¼ miles.
Fish factory stack	358	04	--	------	5¾ miles.

JANES ISLAND LIGHT.

Locality.—Tangier Sound off entrance to Little Annemessex River. (See Chart No. 9.)

Marks.—Observed station is center of black lantern on hexagonal screw pile structure known as "Janes Island Light."

References.—

	°	′	″		
"Solomons Lump Light" (N 42° 08′ W)	00	00	00	------	7⅞ miles.

SOMERS COVE LIGHT.

Locality.—Little Annemessex River at entrance to Crisfield Harbor. (See Chart No. 9.)

Marks.—Observed station is center of spindle on top of black lantern on square screw pile structure known as "Somers Cove Light."

References.—

	°	′	″		
"Janes Island Light" (S 84° 41′ W)	00	00	00	------	2¼ miles.

EMMANUEL CHURCH.

Locality.—City of Crisfield, about ¾ mile east of Crisfield Harbor. (See Chart No. 9.)

Marks.—Observed station is center of steeple on church known as "Emmanuel Methodist Episcopal Church."

References.—None necessary.

MOUNT PLEASANT CHURCH.

Locality.—City of Crisfield, about 1 mile from Crisfield Harbor. (See Chart No. 9.)

Marks.—Observed station is center of steeple on brick church on Main street known as "Mount Pleasant Methodist Protestant Church."

References.—None necessary.

ASBURY CHURCH.

Locality.—In town of Lawsonia, about 1½ miles from Crisfield Harbor. (See Chart No. 9.)

Marks.—Observed station is center of very slender steeple on church known as "Asbury Methodist Episcopal Church."

References.—None necessary.

BEACON.

Locality.—Between Tangier and Pocomoke sounds, on small island just north of Great Fox Island known as "House Island." (See Chart No. 9.)

Observed station is about 100 yards south of extreme northern shore and about 30 yards from west shore of island. The shore of an inlet which makes into eastern side of island is about 15 feet northwest of observed station. Cement monument marking reference station is 4.12 meters west of observed station. A temporary wooden beacon stands 0.40 meters south of observed station.

Marks.—Observed station is center of a 6-inch tile pipe set in cement and projecting above ground about 6 inches. Reference station is center point of triangle on standard cement monument.

NOTE.—What was taken to be center mark of old "Beacon" of 1898 is a 2-inch iron pipe projecting above ground with three stubs projecting 3 feet above ground which were apparently used to support instrument. Wooden sills supported by 10-inch piles form a square with the 2-inch pipe in center.

References at observed station.—	°	′	″	
"Janes Island Light" (N 11° 01′ W)	00	00	00	3¾ miles.
Fish factory stack	22	49	--	4¼ miles.
"Asbury Church Spire"	51	32	15	6 miles.
"Sam"	92	42	05	1¼ miles.
Chimney of highest building on Fox Island	171	16	--	1¼ miles.
"Fox Island Poplar"	194	26	--	1 mile.
2-inch iron pipe ("Beacon 1898")	200	28	15	7.26 meters.
Wooden beacon	222	46	00	0.40 meters.
REFERENCE STATION (cement monument)	299	20	40	4.12 meters.

References at 2-inch iron pipe ("Beacon 1898").—	°	′	″	
"Janes Island Light" (N 11° 01′ W)	00	00	00	3¾ miles.
Fish factory stack	22	20	--	4¼ miles.
"Ashbury Church Spire"	51	30	--	6 miles.
"Sam"	92	27	--	1¼ miles.
Chimney on highest building on Fox Island	171	07	--	1¼ miles.
"Fox Island Poplar"	194	23	--	1 mile.
REFERENCE STATION (Cement monument)	353	13	50	8.875 meters
"Beacon" (OBSERVED STATION)	20	35	00	7.26 meters.
Wooden beacon	19	26	--	6.89 meters.

FOX ISLAND POPLAR.

Locality.—Eastern shore of lower Tangier Sound on western side of Great Fox Island about halfway between the northern and southern ends of the island. (See Chart No. 9.)

Observed station is a very prominent lone Lombardy poplar situated on solid land about ⅛ mile inshore from Tangier Sound.

Marks.—Observed station is center of a lone Lombardy poplar tree.

References.—None necessary.

SAM.

Locality.—Western end and northern shore of Pocomoke Sound on north side of the entrance to Cedar Straits about ⅛ mile north of Green Harbor Island. (See Chart No. 9.)

Observed station is on marsh land between two clumps of water bushes about 10 yards back from extreme high-water mark and 15 yards back from ordinary high-water mark. A slough passes about 100 yards north of station and there are several pools 50 yards north of station. Cement monument marking reference station is 2.81 meters north of observed station. "Watkins Point" of the Maryland-Virginia boundary is in the water between "Sam" and Green Harbor Island.

Marks.—Observed station is center of iron pipe projecting 4 inches above ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Janes Island Light" (N 27° 30′ W)	00	00	00		4 miles.
Fish factory stack	23	56	--		4 miles.
Ice factory stack	40	46	--		4¾ miles.
REFERENCE STATION	41	35	50		2.81 meters.
East	95	03	--		3 miles.
Point of land	142	16	--		50 yards.
Left tangent of small island	175	18	--		300 yards.
Right tangent of small island	202	59	--		300 yards.
Left chimney on Fox Island	239	15	--		1¾ miles.
Chimney on middle of large building on Fox Island	241	08			1¾ miles.
"Fox Island Poplar"	253	24	--		1¾ miles.
Large clump of trees on Fox Island	264	21	--		1¾ miles.

WATERMELON HUMMOCK.

Locality.—Northern shore of Pocomoke Sound in midst of a large tract of marsh land lying between Apes Hole Creek and Broad Creek about 2½ miles southeast of Somers Cove Light. (See Chart No. 9.)

Observed station is in midst of marsh near a clump of trees which stand about 25 yards to the north. It is about 150 yards southwest of a wide part of the upper end of Massey Creek.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Somers Cove Light" (N 51° 30′ W)	00	00	00		2½ miles.
Nail in blaze in pine	46	55	30		21.00 meters.
Nail in blaze in pine	83	47	30		11.36 meters.
Cedar tree	235	19	--		100 yards.
"Fox Island Poplar"	278	51	--		4¾ miles.

EAST.

Locality.—North shore of Pocomoke Sound between Apes Hole and Broad creeks on a detached marsh point on east side of entrance to Cow Gap Creek. (See Chart No. 9.)

Observed station is on southerly part of a small marsh island separated about 200 yards from point of mainland. Water bushes cover northerly part of the island. Observed station is about 13 yards south of shore, 14 yards west of shore, 36 yards north of shore, and 5 yards east of shore. Cement monument marking reference station is 6.38 meters southeast of observed station.

Marks.—Observed station is a spike in a cement filled tile pipe with top even with surface of marsh. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Janes Island Light" (N 62° 19′ W)	00	00	00		5¼ miles.
Fish factory stack	16	06	--		4¼ miles.
Somers Cove Light	20	18	00		3½ miles.
Tall tree	40	27	--		1¾ miles.
Point of land east	143	19	--		35 yards.
REFERENCE STATION	212	04	00		6.38 meters.
Pole at oyster house	277	12	--		3½ miles.
Right chimney of first house on Fox Island	298	31	--		4½ miles.
Point of land west	305	25	--		200 yards.
Cabin chimney	313	09			¼ mile.

MONKEY.

Locality.—North side of Pocomoke Sound on a small island known as "Watkins Island" off entrance to Apes Hole Creek. (See Chart No. 9.)

Observed station is in the middle of a small islet about 12 yards by 4 yards which is covered with marsh grass and awash at high water. It is very solid ground on top but soft beneath and island will probably be washed away in a few years.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Scot" (N 77° 17′ E)	00	00	00	3¾ miles.
Chimney of Stirling's watch house	9	27	--	¾ mile.
Left hand chimney of Matthews red roof house on Saxis Island	22	01	--	5 miles.
Chimney of shanty near "Mos"	68	46	--	4½ miles.
Ducking blind	134	36	--	200 yards.
Ducking blind	280	40	--	200 yards.
Peak of brown house	302	18	--	2¼ miles
Windmill on barn	315	48	--	2½ miles.
Cupola of red house	336	49	--	5¼ miles.

SCOT.

Locality.—North shore of Pocomoke Sound on extreme southern point of marsh land between East and Marumsco creeks. (See Chart No. 10.)

Observed station is on a marsh point about 25 yards back from extreme end of point, 30 yards back from west side of point, and 20 yards from south side. It is surrounded by a thick and high clump of water bushes which extend along the shore to the eastward. There are no permanent reference objects near station. Cement monument marking reference station is 11.66 meters northeast of observed station.

Marks.—Observed station is an inverted spike in cement which is flush with ground and covers the top of a 6-inch tile pipe. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Old" (N 83° 00′ E)	00	00	00	2½ miles.
First red house (near Oil)	30	17	--	3¾ miles.
2½-story white house	57	17	--	2¼ miles.
Chimney on 4-gable house	70	31	--	2¼ miles.
"Saxis Church"	80	59	35	2¾ miles.
Chimney of Stirling's watch house	172	55	--	2½ miles.
Large tree	181	32	--	5¼ miles.
REFERENCE STATION	317	31	40	11.66 meters.
Chimney of brown house	314	56	--	2¼ miles.
Chimney of oyster house	358	57	--	2½ miles.

OLD.

Locality.—North shore of Upper Pocomoke Sound on point of land halfway between Marumsco Creek (called "Old Johns Creek" on navigation charts) and Williams Point. (See Chart No. 10.)

Observed station is about 150 yards east of John T. Handy's wharf and about 15 feet back. It is on a narrow strip of marsh land which is wearing away by wave action, and thick water bushes stand east and west of station. Three large pine trees stand about ⅛ mile north by east and several oyster houses about 200 yards to the west. Cement monument marking reference station is 11.57 meters north by east of observed station and about on line with largest of three large pines mentioned above.

Marks.—Observed station is spike in cement which is flush with ground and covers the top of a 6-inch tile pipe. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Scot" (S 83° 02′ W)	00	00	00		2½ miles.
Chimney of Richardson's oyster house	12	41	--		1¾ miles.
End of wharf	16	41	--		150 yards.
Chimney of dwelling house	37	53	--		125 yards.
Largest of three pine trees	110	40	--		¼ mile.
Tree to right of three pine trees	112	00	--		¼ mile.
REFERENCE STATION	112	36	50		11.57 meters.
Chimney of dilapidated white house	162	43	--		250 yards.
Nearest gable of first faded red roof house	250	03	--		2 miles.
Nearest end of peak of Matthew's house on Saxis Island	310	21	--		2⅓ miles.
Right tangent of Saxis Island	313	21	--		2¼ miles.

WILL.

Locality.—North shore of Pocomoke River on peninsula known as "Williams Point." (See Chart No. 10.)

Observed station is on the highest part of Williams Point about ⅜ mile north of extreme southern end of point and well back from both shores. A clump of bushes and two small cedar trees stand about 40 yards to the north and two medium-sized cedar trees about 300 yards to the west. A drainage creek with mouth on easterly side of peninsula runs almost completely around observed station, passing about 50 feet to the south.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Old" (N 71° 18′ W)	00	00	00		1¾ miles.
Cedar tree	7	33	--		300 yards.
Persimmon tree	20	24	--		320 yards.
Nail in blaze in cedar tree	153	21	20		34.30 meters.
Cedar tree near "Oil"	297	13	--		1¾ miles.
Cedar tree	357	55	--		300 yards

CUP.

Locality.—Virginia side of Pocomoke River on solid land about ¼ mile back from shore and ⅛ mile from nearest bend of Holden Creek. (See Chart No. 10.)

Observed station is octagonal cupola on unpainted barn on land known as "Jolly's Neck Farm." Barn stands near many cedar trees and south of another large unpainted building.

Marks.—Observed station is center point of top of cupola on barn.

References.—None necessary.

SUMMER.

Locality.—South and Virginia shore of mouth of Pocomoke River about ¾ mile south of Williams Point, on point known locally as "Sand Bar Point." (See Chart No. 10.)

Observed station is on sandy part of marsh land about 20 feet back from high-water mark on north and west sides of point. There are no permanent reference marks near station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Will" (N 7° 06′ E)	00	00	00		1⅜ miles.
Chimney of large white house	15	39	--		2¼ miles.
Large high tree	25	42	--		3 miles.
Large high tree (opposite shore)	37	08	--		2 miles.
Southerly chimney of large house	79	39	--		1¾ miles.
Chimney on ell of red roof house	119	48	--		½ mile.
First pine tree in half dozen or more	161	25	--		½ mile.
Larger chimney of white house near woods	199	52	--		½ mile.
Federman's windmill	241	11	--		½ mile.

	°	′	″		
Peak of Federman's store	274	53	--	------	¾ mile.
"Oil"	281	01	15	------	1 mile.
Lone tree	317	52	--	------	2½ miles.

OIL.

Locality.—South and Virginia shore of upper end of Pocomoke Sound on a point of land known as "Pig Point," located about 1½ miles southwest of Williams Point. (See Chart No. 10.)

Observed station is on western side of a marsh point covered with sand about 2 feet above and 30 feet east of ordinary high-water mark, 5 feet east of extreme high-water mark, 100 feet south of ordinary high-water mark, and about 3 feet south of extreme high-water mark. Water bushes skirt shore to east and north and sand beach curves to southwest. On next point about ¼ mile southwest are two trees. Cement monument marking reference station is 46.18 meters south of observed station.

Marks.—Observed station is spike in center of 6-inch tile pipe filled with cement with top flush with surface. Reference station is center of triangle on standard cement monument.

References.—

	°	′	″		
"Will" (N 47° 10′ E)	00	00	00	------	1½ miles.
Large lone tree	17	43	--	------	2½ miles.
Peak of roof of Federman's store	70	03	--	------	⅜ mile.
Chimney on oyster house	78	07	--	------	¼ mile.
Large tree	84	47	--	------	¼ mile.
Windmill on Federman's barn	90	19	--	------	¾ mile.
Chimney outside of cabin	100	50	--	------	¼ mile.
Persimmon tree	123	12	--	------	¼ mile.
REFERENCE STATION	137	50	40	------	46.18 meters.
Tree	179	50	--	------	¼ mile.
Point of land	186	10	--	------	100 yards.
"Saxis Church"	193	28	--	------	2¾ miles.
Wharf	209	32	--	------	2¾ miles.
Chimney of white house	277	54	--	------	2½ miles.
Highest chimney in group of white houses	290	20	--	------	1¾ miles.
High long leaf pine	295	53	--	------	2 miles.
Westerly end of barn	352	40	--	------	2 miles.

WHARF.

Locality.—Southeast and Virginia side of Pocomoke Sound about ½ mile offshore of Saxis Island and about ¾ mile north-northwest of "Saxis Church." (See Chart No. 10.)

Observed station is on northwest end of house on detached pile structure called Saxis Pier.

Marks.—Observed station is flag pole on northwest end of peak of pier house on Saxis Island pier

References.—

	°	′	″		
"Saxis Church" (S 26° 10′ E)	00	00	00	------	¾ mile.

SAXIS CHURCH.

Locality.—Southeast and Virginia shore of Pocomoke Sound on solid land known as "Saxis Island" about 3¼ miles from shore of sound and ½ mile northeast of mouth of Starling Creek. (See Chart No. 10.)

Marks.—Observed station is center point of spire on church known as Southern Methodist Episcopal Church.

References.—None necessary.

MOS.

Locality.—Eastern extremity of marsh land between Pocomoke Sound and Messongo Creek on a point of land locally called "Fishing Point." (See Chart No. 10.)

Observed station is on the western extremity of marsh point and about ⅛ mile east of the eastern extremity of a small island. It is about 2 feet above and 8 feet back from ordinary high-water on north

side and 45 feet from western end of point. A crab-packing shanty stands about 8 yards to eastward of observed station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Monkey" (N 35° 23′ W)	00	00	00	4½ miles.
Point of Island	33	01	--	⅜ mile.
"Saxis Church"	82	06	10	2⅝ miles.
Right edge of woods on Saxis Island	86	11	--	2½ miles.
Left corner of crab house	98	58	--	6.74 meters.
Right corner of crab house	128	43	--	6.37 meters.
Point of land on Burntwood Island	163	01	--	2 miles.
Chimney on shanty	301	38	--	200 yards.

BOUNDARIES OF OYSTER BARS.

EXPLANATION OF DESCRIPTIONS OF BOUNDARIES.

The oyster bars of Somerset County are 37 in number, and their total area, as marked out by buoys placed by the hydrographic engineer of the Commission, is 27,566 acres. As provided by law, the boundaries of the oyster bars are all straight lines, but they inclose areas of all shapes from triangles to complicated fourteen-sided figures, and of all sizes from 3,083 acres to 10 acres.[a] The sides vary in length from 130 to 6,800 yards, and in some cases the corners of the boundaries are practically at the triangulation stations from which they are located, while in other instances they are over 13,600 yards from the landmarks most available for the purpose of fixing their positions.

The varied characteristics of the legal boundaries of the oyster bars indicated by the above statement, together with the complicated requirements of the law under which the survey has been made, and the magnitude of the work, with the consequent need of fixed and uniform methods, has made the problem of describing the boundaries one of considerable difficulty and importance.

The boundaries of the oyster bars of Maryland, as established by the Shell Fish Commission and delineated on the Coast and Geodetic Survey charts and projections and on the leasing charts of the Commission, are technically defined and described by a method somewhat different from that used in other oyster surveys. But it is believed that the forms finally adopted will fulfill all needs of the survey for both the present and future.

The descriptions have been arranged in tabular form, thus avoiding many hundred repetitions of the same words by making one explanation of the tables sufficient for all oyster bars in the county.

At the top of each tabular form is given the legal name of the oyster bar to be described, its general locality, and the serial number of the "Charts of Oyster Bars" of Maryland on which its legal boundaries are shown.

The first column, under the heading of "Corner of bar," gives the number corresponding to the corner of the boundary as shown on the charts and to the number on the buoy marking the actual corner of the bar. The numbers of the corners have been assigned by naming the southernmost point No. 1, thence proceeding in a clockwise direction around the bar; but where a corner of one oyster bar is identical with the

[a] For similar statistics for other counties that have been surveyed, see Appendix C of this publication.

corner of the boundaries of one or more other oyster bars, crab bottoms, or clam beds, only the number of the corner of the oyster bar being described in the table is given in this column.

The second and third columns, under the headings of "Latitude" and "Longitude," give the geographic positions of the corners. These positions have been adopted by the Commission as the primary technical definition of the corners, and should be considered as final in case of a dispute arising from discrepancies caused by other means of location. The latitudes and longitudes given in these columns are based on the United States standard datum of the Coast and Geodetic Survey, and the points thus defined can be relocated from distant triangulation stations of the Survey, even though all the landmarks and buoys originally used for their location have been destroyed by natural causes or by acts of vandals desiring to defeat the purposes of the oyster laws of Maryland.

The fourth and fifth columns, under the general heading of "True bearing"[a] and the specific headings "Forward" and "Back," give bearings measured from a true north-and-south line. The three "Forward" bearings are from the corner of the boundary designated in the first column to the triangulation stations named on the corresponding lines in the last column, and the three "Back" bearings are from these same stations in the last column to the corresponding corner of boundary in the first column. The difference in minutes of arc between the forward and back bearings shown in some cases is actual and not accidental, and is due to the fact that the computations took into account the spheroidal shape of the earth.

The sixth column, under the heading of "Distance," gives the three computed distances in yards from the corner of the bar noted in the first column to the three triangulation stations named on the corresponding lines in the last column, and vice versa.

The seventh and last column, under the heading of "U. S. C. & G. S. triangulation station,"[b] gives the names of the landmarks from which were computed the corresponding "Latitude," "Longitude," "True bearing," and "Distance" of the "Corner of the bar" designated in the first column. A full description of the location and markings of these triangulation stations is given in another part of this publication, under the heading of "Description of triangulation stations."

SURVEYING METHODS FOR RELOCATION OF BOUNDARIES.

There are a number of methods that can be used in the relocation of the actual boundaries of the natural oyster bars as technically described in this publication and delineated on the published charts of the Coast and Geodetic Survey and the leasing charts of the Shell Fish Commission.

The following brief descriptions of five of these more or less different methods assume a certain amount of experience and knowledge on the part of the engineer in the particular kind of surveying under consideration, and are only intended as reminders of ways and means that can be used.

There are two problems that are likely to present themselves to those interested in the boundaries of natural oyster bars. One, to determine whether the buoys marking

[a] The mean magnetic variation of Somerset County for 1908 was 5° 30′ west of north, and increasing at the rate of 3′ yearly.

[b] Geographic positions of these triangulation stations can be obtained by application to the Superintendent of the Coast and Geodetic Survey at Washington.

the corners have been dragged or otherwise moved from their correct positions, and the other, to relocate or reestablish a buoy at the point from which it was removed. The different ways of solving these two problems partly depend upon the instruments possessed by the engineer and his assistants and partly on his training and experience.

(1) *Triangulation.*—This method is the one that will give the greatest accuracy, but on account of its requiring special data and instruments, and being an operation rarely used by engineers not engaged in geodetic surveying, it is recommended only for cases in dispute that can not be settled satisfactorily by some other method. An explanation of this class of work would be too long for a report of this sort, and those not familiar with this method are referred to the publications on the subject by the Coast and Geodetic Survey.

(2) *Hydrographic.*—This method is the most simple and satisfactory one that can be adopted if the surveyor can obtain the use of the necessary instruments and assistants. It is the one best suited for the work of the engineers of the Commission in relocating corners of boundaries, as it gives results of the accuracy ordinarily required and is rapid in execution. Besides, it has the advantage of being available whenever three triangulation stations of suitable relative positions are visible from the offshore points needing relocation.

Most navigators and others familiar with the use of a sextant are well acquainted with the graphic three-point method of fixing a position on water, and only a brief description of the operation will be stated.

In the case where there is only one engineer, having a single sextant, the three-point method can be used, but not until the two angles determining the position of any buoy have been derived from the "Forward bearing" given in the tabular forms describing the boundaries of the oyster bars. For example, take "Turtle Egg Island" bar, which is the first one described in this publication, and assume that "Corner No. 3," is to be examined as to its position. The angle between the two landmarks "Senator" and "Deal Island Church" as determined from right to left from the forward bearings from this corner is 128° 39′ and the angle between "Deal Island Church" and "Crab" is 99° 30′. Having these two angles, the engineer proceeds to the buoy of doubtful location and measures the actual sextant angles between the landmarks for which the calculations were made. If the measured and calculated angles do not agree the buoy is not in its correct position and the boundary corner must be relocated. This is accomplished by moving the boat about until a point is reached where angles do agree, and this point being the desired location, the buoy can be placed in its correct position.

If the engineer can obtain the use of both a sextant and a three-arm protractor ("position finder"), the availability of the hydrographic method is increased, as the use of the protractor is essential in case of the washing away or destruction of one or more of the landmarks originally used in describing the boundaries. Under these circumstances, any three landmarks of suitable relative positions that are visible from the point to be located can be utilized. For example, the engineer can proceed to the buoy of doubtful position and measure the two adjacent sextant angles between the three landmarks selected. These two angles are set off on the three-arm protractor and the actual position of the buoy plotted on the chart by shifting the protractor about until the edge of each of the three arms passes through the center of the symbols on the

chart marking the position of the three landmarks selected. The center of the hub of the protractor will indicate on the chart the actual position of the buoy, and if the point thus obtained does not coincide with the true position of the corner of the boundary as given on the chart, the surveyor can proceed to locate the buoy correctly by reversing the operation. This is done by placing the center point of the hub of the protractor over the corner of the boundary in question and measuring on the chart the two adjacent protractor angles between the three selected landmarks. One of the angles thus obtained is set on the sextant and the boat moved about until the two landmarks are shown by the sextant to subtend the same angle obtained from the protractor. The second angle is then placed on the sextant and the same operation gone through, and so on, first using one angle on the sextant then the other until a point is reached where both observed sextant angles are practically identical with the protractor angles. The point thus located is the desired one and the buoy can be placed to mark the true position of the corner of the boundary in question.

If the engineer possesses two sextants and a protractor, this problem is far easier of solution, as the two angles can be set off on separate sextants and the observer can quickly find the desired point where they agree with the protractor angles by using one sextant after the other without the need of resetting either.

If there are two observers, two sextants, and a protractor, it can be seen that the best conditions for both rapid and accurate hydrographic locations of points are attained; in fact, this is the method by which the buoys at the corners of the boundaries were originally placed by the hydrographic engineer to the Commission.

(3) *Magnetic bearings from offshore.*—This method of fixing a position on water is a simple and well-known one in navigation. It is available to anyone having a boat compass and will be of special use to the State fishery force in investigating cases where buoys are supposed to have been moved for illegal purposes.

In the case where a buoy is supposed to have been moved from its true position the observer takes compass bearings to the three landmarks given in the last column of the tables opposite the boundary corner in question. These bearings are then corrected for the local declination,[a] and if the results agree with the published bearings the buoy is correctly located.

In the case where the buoy is not in its correct position, or has disappeared altogether, the desired point can be determined by maneuvering the vessel until the corrected bearings agree with the ones in the tabular descriptions, when the buoy can be anchored in its proper location.

In the case where the landmarks for which the bearings are published have been destroyed or washed away, any landmarks whose positions are indicated on the charts can be used by getting their bearings directly from the chart by parallel rulers or a protractor and then applying them in the same manner as the ones published in the tables.

(4) *Magnetic bearings from shore.*—This method will be of special value to engineers having an ordinary surveyor's compass. The compass can be set over the point marking a "triangulation station" on shore, the name of which is given in the last column opposite the "corner" in question. The instrument is then set at the corresponding

[a] The mean magnetic variation of Somerset County for 1908 was 5° 30′ west of north and increasing at the rate of 3′ yearly.

"back" bearing (corrected for local magnetic declination), given in the fourth column of the tables opposite the "corner" in question and on line with the name of the "station" being occupied. The direction thus determined will give one range on which the desired point must be located. The compass can then be moved to a second triangulation station and another range located in a similar manner. The intersection of these two range lines will give the desired point; but in general it should be checked by an additional range line determined from a third station.

(5) *Horizontal angles measured at landmarks.*—This process is a modification of the triangulation method, and will be useful to engineers who have a transit and desire considerable accuracy.

The instrument is placed over a "triangulation station," the name of which appears in the last column of the tabular description opposite the "corner" in question. The telescope is then pointed to the landmark indicated in the "Descriptions of landmarks" as having a direction of 0° 00′ 00″ from the triangulation station being occupied by the transit. The tabular description of the boundaries is next examined and the "back" bearing of the questionable boundary "corner" from the landmark being occupied is taken out. The angle calculated from the "back" bearing and the bearing given in parentheses alongside the zero landmark in the "Descriptions of landmarks" is then set off on the transit, and a range line established on which the desired point must be located. A similar process is then carried on at a second station, and so on until the position of the buoy is satisfactorily fixed.

BOUNDARIES OF NATURAL OYSTER BARS.

TURTLE EGG ISLAND.

(Upper Tangier Sound—Charts Nos. 5 and 7)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 05 49.58	76 00 03.78	S 77 38 W	N 77 38 E	609	Miles.
			S 12 54 W	N 12 53 E	6113	Solomons Lump Light
			N 65 07 E	S 65 09 W	5553	Joshua.
2	38 06 24.78	76 00 21.47	S 5 22 W	N 5 22 E	1323	Miles.
			N 78 12 E	S 78 14 W	5629	Joshua.
			N 10 01 W	S 10 01 E	3400	Senator.
3	38 08 42.38	76 00 20.00	S 26 01 W	N 26 01 E	1437	Senator.
			N 77 22 E	S 77 24 W	5582	Deal Island Church.
			N 22 08 W	S 22 08 E	3984	Crab.
4	38 08 37.36	75 59 11.44	N 69 02 E	S 69 03 W	3878	Deal Island Church.
			N 40 45 W	S 40 46 E	5095	Crab.
			S 65 28 W	N 65 27 E	2700	Senator.
5	38 05 57.12	75 59 10.20	S 79 13 W	N 79 12 E	2059	Miles
			S 24 12 W	N 24 11 E	6812	Solomons Lump Light
			N 60 02 E	S 60 03 W	4168	Joshua.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

MUD.

(*Upper Tangier Sound—Chart No. 5.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 08 37.36	75 59 11.44	N 69 02 E	S 69 03 W	3878	Deal Island Church.
			N 40 45 W	S 40 46 E	5095	Crab.
			S 65 28 W	N 65 27 E	2700	Senator.
2	38 08 42.38	76 00 20.00	S 26 01 W	N 26 01 E	1437	Senator.
			N 77 22 E	S 77 24 W	5582	Deal Island Church.
			N 22 08 W	S 22 08 E	3984	Crab.
3	38 09 06.39	76 00 41.00	S 1 56 W	N 1 56 E	2102	Senator.
			N 86 05 E	S 86 07 W	6019	Deal Island Church.
			N 18 06 W	S 18 06 E	3030	Crab.
4	38 09 26.74	76 00 23.48	S 10 55 W	N 10 55 E	2838	Senator.
			S 87 10 E	N 87 07 W	5546	Deal Island Church.
			N 32 41 W	S 32 41 E	2607	Crab.
5	38 09 53.08	75 59 18.00	N 67 28 W	S 67 29 E	3411	Crab.
			S 31 50 W	N 31 49 E	4325	Senator.
			S 72 57 E	N 72 58 W	3970	Deal Island Church.

OLD ORCHARD.

(*Upper Tangier Sound—Chart No. 5.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 09 12.58	75 58 01.68	N 83 29 E	S 83 30 W	1775	Deal Island Church.
			N 26 24 E	S 26 24 W	3064	Haines.
			S 61 51 W	N 61 53 E	4893	Senator.
2	38 09 15.60	75 58 21.20	N 87 31 E	S 87 32 W	2285	Deal Island Church.
			N 35 27 E	S 35 28 W	3245	Haines.
			S 57 34 W	N 57 33 E	4495	Senator.
3	38 10 06.90	75 58 19.19	S 42 53 W	N 42 52 E	5651	Senator.
			S 53 49 E	N 53 49 W	2761	Deal Island Church
			N 63 27 E	S 63 28 W	2044	Haines.
4	38 10 09.70	75 57 15.91	N 9 57 E	S 9 58 W	831	Haines.
			N 83 20 W	S 83 17 E	6445	Crab.
			S 17 31 E	N 17 31 W	1809	Deal Island Church.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

HAINES.

(Upper Tangier Sound—Chart No. 5.)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 10 06.90	75 58 19.19	S 42 53 W	N 42 52 E	5651	Senator.
			S 53 49 E	N 53 49 W	2761	Deal Island Church.
			N 63 27 E	S 63 28 W	2044	Haines.
2	38 11 13.65	75 58 16.39	N 39 44 W	S 39 45 E	2367	Sharkfin Shoal Light.
			S 73 37 W	N 73 35 E	4993	Crab.
			S 52 40 E	N 52 40 W	2206	Haines.
3	38 12 08.36	75 57 32.19	S 46 31 E	N 46 30 W	2365	Room.
			N 61 58 E	S 62 00 W.	6723	White.
			N 13 21 E	S 13 22 W	4252	Frog.
4	38 11 16.19	75 57 05.79	S 5 03 W	N 5 03 E	1429	Haines.
			N 82 39 E	S 82 39 W	1023	Room.
			N 2 43 E	S 2 43 W	5903	Frog.
5	38 10 46.46	75 57 43.66	S 85 02 W	N 85 00 E	5683	Crab.
			S 23 24 E	N 23 24 W	3230	Deal Island Church.
			S 64 30 E	N 64 30 W	978	Haines.
6	38 10 09.70	75 57 15.91	N 9 57 E	S 9 58 W	831	Haines.
			N 83 20 W	S 83 17 E	6445	Crab.
			S 17 31 E	N 17 31 W	1809	Deal Island Church.

HALLS POINT.

(Upper Tangier Sound—Chart No. 5.)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 11 16.19	75 57 05.79	S 5 03 W	N 5 03 E	1429	Haines.
			N 82 39 E	S 82 39 W	1023	Room.
			N 2 43 E	S 2 43 W	5903	Frog.
2	38 12 08.36	75 57 32.19	S 46 31 E	N 46 30 W	2365	Room.
			N 61 58 E	S 62 00 W	6723	White.
			N 13 21 E	S 13 32 W	4252	Frog.
3	38 12 22.96	75 57 04.02	S 24 30 E	N 24 30 W	2330	Room.
			N 62 46 E	S 62 48 W	5830	White.
			N 3 39 E	S 3 39 W	3653	Frog.
4	38 12 10.72	75 55 55.59	N 47 32 E	S 47 33 W	4560	White.
			N 21 22 W	S 21 22 E	4357	Frog.
			S 26 35 W	N 26 35 E	1909	Room.
5	38 11 52.57	75 55 45.84	N 40 04 E	S 40 05 W	4824	White.
			N 21 34 W	S 21 35 E	5022	Frog.
			S 45 28 W	N 45 28 E	1563	Room.
6	38 11 47.98	75 56 30.40	S 4 22 E	N 4 22 W	944	Room.
			N 48 07 E	S 48 09 W	5762	White.
			N 7 48 W	S 7 49 E	4870	Frog.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

ROCK CREEK.

(*Upper Tangier Sound—Chart No. 5.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	Yards.	
1	38 12 11.80	75 55 19.92	S 45 58 W	N 45 57 E	2509	Room.
			N 89 35 E	S 89 36 W	3363	Short.
			N 38 27 E	S 38 28 W	3884	White.
2	38 12 17.40	75 55 28.62	S 39 07 W	N 39 07 E	2492	Room.
			S 87 23 E	N 87 20 W	3598	Short.
			N 42 51 E	S 42 52 W	3892	White.
3	38 12 20.98	75 55 15.54	S 43 05 W	N 43 04 E	2812	Room.
			S 84 59 E	N 84 57 W	3259	Short.
			N 40 04 E	S 40 05 W	3572	White.

EVANS.

(*Entrance to Wicomico River—Chart No. 5.*)

	° ′ ″	° ′ ″	° ′	° ′	Yards.	
1	38 12 11.13	75 55 00.80	N 89 04 E	S 89 05 W	2854	Short.
			N 31 53 E	S 31 54 W	3610	White.
			S 53 20 W	N 53 20 E	2883	Room.
2	38 12 36.31	75 54 44.50	S 46 54 W	N 46 53 E	3762	Room.
			S 71 39 E	N 71 38 W	2550	Short.
			N 33 37 E	S 33 38 W	2661	White.
3	38 12 50.97	75 53 52.76	S 38 49 E	N 38 49 W	1664	Short.
			N 89 20 E	S 89 20 W	1755	Great Shoals Light.
			N 3 14 E	S 3 14 W	1725	White.
4	38 12 38.84	75 53 10.40	S 5 22 W	N 5 22 E	892	Short.
			N 55 41 E	S 55 41 W	761	Great Shoals Light.
			N 25 48 W	S 25 48 E	2367	White.
5	38 12 24.72	75 53 38.75	S 58 26 E	N 58 26 W	787	Short.
			N 56 47 E	S 56 48 W	1652	Great Shoals Light.
			N 6 02 W	S 6 02 E	2621	White.

BUOY.

(*Entrance Wicomico River—Chart No. 5.*)

	° ′ ″	° ′ ″	° ′	° ′	Yards.	
1	38 12 30.79	75 52 38.34	S 73 13 E	N 73 12 W	1765	Dove.
			N 17 45 W	S 17 45 E	736	Great Shoals Light.
			S 56 38 W	N 56 38 E	1121	Short.
2	38 12 45.82	75 52 36.80	N 53 50 W	S 53 50 E	328	Great Shoals Light.
			S 41 02 W	N 41 01 E	1489	Short.
			S 58 21 E	N 58 21 W	1938	Dove.
3	38 12 48.43	75 52 23.80	N 80 10 W	S 80 10 E	620	Great Shoals Light.
			S 47 31 W	N 47 31 E	1795	Short.
			S 49 43 E	N 49 43 W	1708	Dove.
4	38 12 32.26	75 52 22.18	N 45 08 W	S 45 08 E	923	Great Shoals Light.
			S 64 00 W	N 64 00 E	1520	Short.
			S 66 04 E	N 66 04 W	1376	Dove.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

WINGATE.

(Lower Wicomico River—Chart No. 5.)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 14 01.31	75 51 58.41	N 70 14 E	S 70 14 W	379	Wind.
			N 38 53 E	S 38 53 W	2099	Holland.
			N 31 47 W	S 31 47 E	1307	Ella.
2	38 14 05.12	75 52 02.63	S 61 19 E	N 61 19 W	536	Wind.
			N 43 31 E	S 43 32 W	2077	Holland.
			N 30 23 W	S 30 22 E	1138	Ella.
3	38 14 21.26	75 51 40.50	N 41 12 E	S 41 12 W	1277	Holland.
			N 69 23 W	S 69 24 E	1245	Ella.
			S 8 26 W	N 8 26 E	810	Wind.
4	38 14 12.82	75 51 33.60	N 27 50 E	S 27 50 W	1409	Holland.
			N 61 48 W	S 61 49 E	1529	Ella.
			S 30 21 W	N 30 21 E	598	Wind.

MOUNT VERNON WHARF.

(Middle Wicomico River—Chart No. 5.)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 15 10.22	75 48 29.18	S 77 45 E	N 77 44 W	175	Walnut.
			N 6 01 W	S 6 01 E	434	End.
			S 81 02 W	N 81 02 E	1138	Jones.
2	38 15 13.76	75 48 30.30	N 50 26 W	S 50 26 E	1342	Creek.
			S 74 50 W	N 74 50 E	1134	Jones.
			S 52 02 E	N 52 02 W	254	Walnut.
3	38 15 15.14	75 48 19.08	N 49 44 W	S 49 44 E	411	End.
			S 76 09 W	N 76 09 E	1435	Jones.
			S 25 44 W	N 25 44 E	225	Walnut.
4	38 15 18.76	75 48 09.97	N 75 29 W	S 75 29 E	574	End.
			S 74 07 W	N 74 06 E	1701	Jones.
			S 46 18 W	N 46 18 E	470	Walnut.
5	38 15 14.18	75 48 08.56	N 63 19 W	S 63 19 E	665	End.
			S 79 28 W	N 79 28 E	1702	Jones.
			S 65 41 W	N 65 41 E	414	Walnut.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

GEORGES.

(*Middle Manokin River—Charts Nos. 5 and 7.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 07 34.98	75 50 51.58	S 61 04 E	N 61 02 W	4965	Fairmount Church.
			N 13 42 E	S 13 42 W	2314	Jean.
			N 53 58 W	S 53 58 E	1054	St. Pierre.
2	38 07 37.55	75 51 09.09	S 62 39 E	N 62 37 W	5417	Fairmount Church.
			N 35 54 W	S 35 54 E	659	St. Pierre.
			N 68 19 W	S 68 20 E	3245	Marsh.
3	38 08 15.04	75 50 56.73	S 44 25 W	N 44 25 E	1023	St. Pierre.
			S 71 55 E	N 71 55 W	2350	Staff.
			N 37 21 E	S 37 22 W	1130	Jean.
4	38 08 41.22	75 50 12.44	N 88 14 W	S 88 14 E	492	Jean.
			S 33 12 E	N 33 11 W	1927	Staff.
			S 78 31 E	N 78 30 W	2791	Sandy.
5	38 08 46.80	75 50 02.99	S 76 56 W	N 76 56 E	766	Jean.
			S 24 03 E	N 24 02 W	1972	Staff.
			S 60 07 E	N 60 07 W	2594	Cupola.
6	38 08 42.06	75 49 27.21	S 89 33 W	N 89 33 E	1698	Jean.
			S 62 07 W	N 62 05 E	3508	St. Pierre.
			S 5 13 W	N 5 13 E	1647	Staff.
7	38 08 22.52	75 49 17.98	N 71 37 W	S 71 38 E	2054	Jean.
			S 21 56 W	N 21 56 E	1059	Staff.
			S 65 43 E	N 65 43 W	1153	Cupola.
8	38 08 22.89	75 48 50.33	S 48 42 W	N 48 42 E	1507	Staff.
			S 32 51 E	N 32 51 W	579	Cupola.
			N 83 32 E	S 83 33 W	551	Sandy.
9	38 08 18.77	75 48 36.40	S 60 21 W	N 60 21 E	1729	Staff.
			S 9 19 W	N 9 19 E	352	Cupola.
			N 41 21 E	S 41 21 W	268	Sandy.
10	38 08 13.78	75 48 46.70	S 60 47 W	N 60 46 E	1407	Staff.
			S 50 31 E	N 50 31 W	282	Cupola.
			N 50 42 E	S 50 42 W	583	Sandy.
11	38 08 16.22	75 49 44.00	N 55 34 W	S 55 34 E	1517	Jean.
			S 73 49 W	N 73 48 E	2762	St. Pierre.
			S 21 08 E	N 21 08 W	825	Staff.
12	38 08 07.26	75 50 47.14	S 64 16 W	N 64 16 E	1078	St. Pierre.
			N 20 20 E	S 20 20 W	1237	Jean.
			S 76 43 E	N 76 43 W	2034	Staff.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

SOUTHWEST MIDDLEGROUND.

(*Chesapeake Bay—Off Smith Island—Charts Nos. 6 and 8.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	37 58 56.46	76 10 01.95	S 87 36 E	N 87 31 W	12019	Old Church (Smith Island).
			N 70 20 E	S 70 24 W	11802	Joseph.
			N 33 04 E	S 33 07 W	12510	Holland Island Bar Light.
2	38 01 24.82	76 10 20.36	S 66 14 E	N 66 09 W	13658	Old Church (Smith Island).
			S 84 49 E	N 84 44 W	11653	Joseph.
			N 53 10 E	S 53 13 W	9142	Holland Island Bar Light.
3	38 00 48.20	76 08 02.85	S 64 10 E	N 64 07 W	9810	Old Church (Smith Island).
			N 88 43 E	S 88 46 W	7940	Joseph.
			N 28 33 E	S 28 34 W	7642	Holland Island Bar Light.
4	37 59 25.92	76 07 29.61	S 79 18 E	N 79 15 W	8083	Old Church (Smith Island).
			N 67 17 E	S 67 20 W	7643	Joseph.
			N 16 15 E	S 16 16 W	9882	Holland Island Bar Light.

KEDGE STRAITS.

(*Chesapeake Bay—Off Kedge Straits—Chart No. 6.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 02 59.23	76 05 02.83	S 67 03 E	N 67 01 W	4415	Fog.
			S 88 09 E	N 88 07 W	6613	Solomons Lump Light.
			N 26 34 W	S 26 34 E	2566	Holland Island Bar Light.
2	38 03 44.58	76 05 27.95	S 55 28 E	N 55 26 W	5735	Fog.
			S 76 33 E	N 76 30 W	7485	Solomons Lump Light.
			N 31 59 W	S 31 59 E	902	Holland Island Bar Light.
3	38 04 06.44	76 04 14.42	N 89 20 W	S 89 21 E	2438	Holland Island Bar Light.
			S 34 50 E	N 34 48 W	4858	Fog.
			S 64 59 E	N 64 57 W	5869	Solomons Lump Light.
4	38 03 23.36	76 04 01.96	S 16 38 E	N 16 38 W	5279	Joseph.
			S 43 55 E	N 43 54 W	3519	Fog.
			S 78 21 E	N 78 19 W	5092	Solomons Lump Light.

OYSTER CREEK.

(*Outer Kedge Straits—Chart No. 6.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 03 41.17	76 02 30.87	N 80 23 W	S 80 25 E	5272	Holland Island Bar Light.
			S 0 14 E	N 0 14 W	3138	Fog.
			S 57 31 E	N 57 30 W	3033	Solomons Lump Light.
2	38 04 09.14	76 04 01.30	S 88 43 W	N 88 42 E	2789	Holland Island Bar Light.
			S 30 43 E	N 30 42 W	4745	Fog.
			S 62 38 E	N 62 36 W	5595	Solomons Lump Light.
3	38 04 34.32	76 04 32.26	S 65 05 W	N 65 04 E	2164	Holland Island Bar Light.
			S 33 24 E	N 33 24 W	5903	Fog.
			S 59 26 E	N 59 24 W	6730	Solomons Lump Light.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

OYSTER CREEK—Continued.

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
4	38 04 40.76	76 04 11.80	S 65 04 W	N 65 03 E	2677	Holland Island Bar Light.
			S 28 28 E	N 28 27 W	5840	Fog.
			S 55 41 E	N 55 39 W	6452	Solomons Lump Light.
5	38 05 10.20	76 04 00.70	S 52 53 W	N 52 52 E	3516	Holland Island Bar Light.
			S 21 25 E	N 21 24 W	6593	Fog.
			S 46 56 E	N 46 54 W	6780	Solomons Lump Light.
6	38 05 01.98	76 03 40.24	S 61 10 W	N 61 08 E	3823	Holland Island Bar Light.
			S 17 38 E	N 17 37 W	6150	Fog.
			S 45 21 E	N 45 20 W	6195	Solomons Lump Light.
7	38 04 29.16	76 03 45.49	S 77 04 W	N 77 02 E	3293	Holland Island Bar Light.
			S 22 50 E	N 22 50 W	5160	Fog.
			S 54 28 E	N 54 27 W	5587	Solomons Lump Light.
8	38 04 13.84	76 02 35.49	S 87 31 W	N 87 29 E	5080	Holland Island Bar Light.
			S 1 50 E	N 1 50 W	4241	Fog.
			S 44 28 E	N 44 27 W	3826	Solomons Lump Light.

MUSSEL HOLE.

(*Middle Tangier Sound—Chart No. 7.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 02 36.76	75 59 41.02	N 10 41 W	S 10 41 E	6483	Miles.
			N 74 37 W	S 74 38 E	2045	Solomons Lump Light.
			S 35 44 E	N 35 43 W	4150	Terrapin.
2	38 02 44.55	76 00 05.88	N 5 03 W	S 5 03 E	8320	Miles.
			N 77 56 W	S 77 57 E	1337	Solomons Lump Light.
			S 40 22 E	N 40 21 W	4766	Terrapin.
3	38 03 07.81	75 59 52.42	N 31 17 E	S 31 19 W	9118	Joshua.
			N 9 34 W	S 9 35 E	5399	Miles.
			S 73 09 W	N 73 09 E	1742	Solomons Lump Light.
4	38 03 40.94	75 59 32.90	N 18 38 W	S 18 38 E	4440	Miles.
			S 53 27 W	N 53 27 E	2723	Solomons Lump Light.
			S 21 45 E	N 21 44 W	5957	Terrapin.
5	38 05 49.58	76 00 03.78	S 77 38 W	N 77 38 E	609	Miles.
			S 12 54 W	N 12 53 E	6113	Solomons Lump Light.
			N 65 07 E	S 65 09 W	5553	Joshua.
6	38 05 57.12	75 59 10.20	S 79 13 W	N 79 12 E	2059	Miles.
			S 24 12 W	N 24 11 E	6812	Solomons Lump Light.
			N 60 02 E	S 60 03 W	4168	Joshua.
7	38 02 50.94	75 58 34.94	N 26 41 W	S 26 42 E	6506	Miles.
			N 89 00 W	S 89 02 E	3734	Solomons Lump Light.
			S 9 44 E	N 9 44 W	3904	Terrapin.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

CHAIN SHOAL.

(*Upper Tangier Sound—Chart No. 7.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 05 54.32	75 58 05.33	N 40 52 E	S 40 52 W	2877	Joshua.
			N 43 56 W	S 43 58 E	6077	Senator.
			S 85 29 W	N 85 28 E	3763	Miles.
2	38 06 41.67	75 58 29.59	S 77 05 E	N 77 06 W	2594	Joshua.
			N 52 06 W	S 52 07 E	4525	Senator.
			S 58 43 W	N 58 42 E	3633	Miles.
3	38 07 49.53	75 58 13.70	N 82 59 W	S 83 00 E	4024	Senator.
			S 40 12 W	N 40 11 E	5466	Miles.
			S 50 57 E	N 50 56 W	2711	Joshua.
4	38 07 49.58	75 58 08.32	N 83 15 W	S 83 16 E	4167	Senator.
			S 41 19 W	N 41 18 E	5561	Miles.
			S 48 56 E	N 48 55 W	2603	Joshua.
5	38 07 49.36	75 57 48.36	N 83 55 W	S 83 53 E	4695	Senator.
			S 45 14 W	N 45 13 E	5920	Miles.
			S 40 02 E	N 40 01 W	2224	Joshua.
6	38 06 20.96	75 57 51.84	N 50 00 E	S 50 01 W	1988	Joshua.
			N 52 46 W	S 52 47 E	5748	Senator.
			S 73 53 W	N 73 52 E	4279	Miles.
7	38 06 02.66	75 57 29.40	N 26 02 E	S 26 02 W	2108	Joshua.
			N 51 38 W	S 51 40 E	6599	Senator.
			S 83 06 W	N 83 04 E	4744	Miles.

PINEY ISLAND WEST.

(*Middle Tangier Sound—Chart No. 7.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 02 51.48	75 56 30.20	N 77 42 E	S 77 44 W	6823	Has.
			N 4 28 W	S 4 28 E	8366	Joshua.
			N 89 36 W	S 89 39 E	7059	Solomons Lump Light
2	38 03 50.44	75 57 18.84	N 5 47 E	S 5 49 W	6401	Joshua.
			N 52 05 W	S 52 07 E	6326	Miles.
			S. 71 23 W	N 71 21 E	6080	Solomons Lump Light.
3	38 05 48.86	75 57 49.50	N 31 45 E	S 31 46 W	2776	Joshua.
			S 88 33 W	N 88 32 E	4174	Miles.
			S 39 48 W	N 39 46 E	7724	Solomons Lump Light.
4	38 05 56.82	75 57 19.40	N 17 29 E	S 17 30 W	2194	Joshua.
			S 85 43 W	N 85 41 E	4990	Miles.
			S 42 49 W	N 42 47 E	8456	Solomons Lump Light
5	38 05 42.60	75 56 59.66	N 2 58 E	S 2 58 W	2574	Joshua.
			N 88 52 W	S 88 54 E	5502	Miles.
			S 47 38 W	N 47 36 E	8492	Solomons Lump Light.
6	38 02 52.53	75 55 46.18	N 75 32 E	S 75 34 W	5672	Has.
			N 12 23 W	S 12 24 E	8504	Joshua.
			N 89 54 W	S 89 57 E	8234	Solomons Lump Light.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

PINEY ISLAND SWASH.

(Lower Manokin River—Chart No. 7.)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 06 30.82	75 55 43.81	N 51 16 E	S 51 18 W	5513	Marsh.
			N 27 09 E	S 27 08 W	3826	Kelley.
			N 63 23 W	S 63 24 E	2111	Joshua.
2	38 06 40.44	75 56 03.80	N 57 07 E	S 57 05 W	5756	Marsh.
			N 36 29 E	S 36 28 W	3832	Kelley.
			N 65 22 W	S 65 23 E	1491	Joshua.
3	38 06 55.34	75 55 50.46	N 59 39 E	S 59 41 W	5201	Marsh.
			N 36 43 E	S 36 44 W	3216	Kelley.
			N 86 02 W	S 86 01 E	1715	Joshua.
4	38 07 20.78	75 55 27.89	N 65 32 E	S 65 33 W	4260	Marsh.
			N 37 32 E	S 37 32 W	2170	Kelley.
			S 72 17 W	N 72 16 E	2427	Joshua.
5	38 07 54.55	75 53 44.94	S 89 25 E	N 89 21 W	3765	St. Pierre.
			N 61 07 E	S 61 07 W	1296	Marsh.
			N 67 43 W	S 67 44 E	1534	Kelley.
6	38 07 37.14	75 53 26.26	N 80 28 E	S 80 30 W	3313	St. Pierre.
			N 27 45 E	S 27 45 W	1369	Marsh.
			N 58 38 W	S 58 37 E	2256	Kelley.
7	38 06 40.66	75 54 52.43	N 43 15 E	S 43 16 W	4279	Marsh.
			N 7 00 E	S 7 00 W	3096	Kelley.
			N 79 19 W	S 79 20 E	3314	Joshua.
8	38 06 59.58	75 55 20.55	N 56 02 E	S 65 05 W	4439	Marsh.
			N 24 50 E	S 24 49 W	2683	Kelley.
			S 89 27 W	N 89 26 E	2508	Joshua.

SANDY POINT.

(Middle Manokin River—Chart No. 7.)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 08 08.44	75 48 27.90	N 70 53 E	S 70 53 W	2070	Green
			N 5 09 W	S 5 09 E	553	Sandy.
			N 89 48 W	S 89 48 E	283	Cupola.
2	38 08 13.78	75 48 46.70	S 60 47 W	N 60 46 E	1407	Staff.
			S 50 31 E	N 50 31 W	282	Cupola.
			N 50 42 E	S 50 42 W	583	Sandy.
3	38 08 18.77	75 48 36.40	S 60 21 W	N 60 21 E	1729	Staff.
			S 9 19 W	N 9 19 E	352	Cupola.
			N 41 21 E	S 41 21 W	268	Sandy.
4	38 08 16.04	75 48 08.80	N 74 07 E	S 74 07 W	1502	Green.
			N 62 18 W	S 62 18 E	631	Sandy.
			S 72 08 W	N 72 08 E	832	Cupola.
5	38 08 10.17	75 48 07.23	N 66 13 E	S 66 14 W	1536	Green.
			N 50 43 W	S 50 43 E	775	Sandy.
			S 86 04 W	N 86 04 E	836	Cupola.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

CORMAL.

(*Middle Manokin River—Chart No. 7.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 07 33.63	75 50 42.60	S 60 03 E	N 60 01 W	4720	Fairmount Church.
			N 70 06 E	S 70 07 W	1959	Staff.
			N 7 10 E	S 7 16 W	2313	Jean.
2	38 07 34.98	75 50 51.58	S 61 04 E	N 61 02 W	4965	Fairmount Church
			N 13 42 E	S 13 42 W	2314	Jean.
			N 53 58 W	S 53 58 E	1054	St. Pierre.
3	38 08 07.26	75 50 47.14	S 64 16 W	N 64 16 E	1078	St. Pierre.
			N 20 20 E	S 20 20 W	1237	Jean.
			S 76 43 E	N 76 43 W	2034	Staff.
4	38 08 16.22	75 49 44.00	N 55 34 W	S 55 34 E	1517	Jean.
			S 73 49 W	N 73 48 E	2762	St. Pierre.
			S 21 08 E	N 21 08 W	825	Staff.
5	38 08 13.78	75 48 46.70	S 60 47 W	N 60 46 E	1407	Staff.
			S 50 31 E	N 50 31 W	282	Cupola.
			N 50 42 E	S 50 42 W	583	Sandy.
6	38 07 59.80	75 49 18.22	N 74 32 E	S 74 33 W	1098	Cupola.
			N 56 53 E	S 56 53 W	1538	Sandy.
			S 60 59 W	N 60 59 E	445	Staff.
7	38 08 08.57	75 49 29.28	S 80 27 W	N 80 26 E	3087	St. Pierre.
			S 10 28 W	N 10 28 E	521	Staff.
			S 89 51 E	N 89 51 W	1352	Cupola.
8	38 08 09.18	75 49 54.96	S 47 56 E	N 47 55 W	794	Staff.
			N 76 59 E	S 77 00 W	2329	Sandy.
			N 41 13 W	S 41 13 E	1457	Jean.
9	38 08 05.77	75 49 58.00	S 58 07 E	N 58 07 W	790	Staff.
			N 74 46 E	S 74 47 W	2435	Sandy.
			N 35 58 W	S 35 59 E	1499	Jean.
10	38 08 00.34	75 49 53.88	S 67 21 E	N 67 20 W	607	Staff.
			N 35 20 W	S 35 21 E	1708	Jean.
			S 84 23 W	N 84 23 E	2402	St. Pierre.
11	38 07 52.81	75 50 00.00	N 88 26 E	S 88 26 W	734	Staff.
			N 26 36 W	S 26 37 E	1843	Jean.
			N 89 30 W	S 89 31 E	2227	St. Pierre.
12	38 07 45.55	75 50 26.40	N 79 29 E	S 79 30 W	1451	Staff.
			N 3 42 W	S 3 42 E	1896	Jean.
			N 86 10 W	S 86 11 E	1546	St. Pierre.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

MARSHY ISLAND.

(*Lower Manokin River—Chart No. 7.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 04 49.82	75 53 40.47	S 17 05 E	N 17 04 W	6283	Flat Cap.
			S 40 08 E	N 40 08 W	3321	Has.
			N 63 55 E	S 63 56 W	2225	Prickly.
2	38 05 17.10	75 54 19.78	S 22 41 E	N 22 40 W	7505	Flat Cap.
			S 42 41 E	N 42 40 W	4704	Has.
			N 88 54 E	S 88 55 W	3047	Prickly.
3	38 05 50.40	75 54 24.20	S 71 25 E	N 71 24 W	3338	Prickly.
			N 24 23 E	S 24 25 W	5282	Marsh.
			N 60 03 W	S 60 05 E	4626	Joshua.
4	38 07 04.22	75 53 18.62	N 61 34 E	S 61 36 W	3483	St. Pierre.
			N 10 35 E	S 10 35 W	2362	Marsh.
			N 42 56 W	S 42 57 E	3113	Kelley.
5	38 07 38.06	75 52 23.58	N 72 05 E	S 72 05 W	1679	St. Pierre.
			N 41 08 W	S 41 09 E	1568	Marsh.
			N 72 23 W	S 72 25 E	3763	Kelley.
6	38 07 37.55	75 51 09.09	S 62 39 E	N 62 37 W	5417	Fairmount Church.
			N 35 54 W	S 35 54 E	659	St. Pierre.
			N 68 19 W	S 68 20 E	3245	Marsh.
7	38 07 34.98	75 50 51.58	S 61 04 E	N 61 02 W	4965	Fairmount Church.
			N 13 42 E	S 13 42 W	2314	Jean.
			N 53 58 W	S 53 58 E	1054	St. Pierre.
8	38 07 03.79	75 51 10.99	S 74 29 E	N 74 27 W	5046	Fairmount Church.
			N 11 21 W	S 11 22 E	1705	St. Pierre.
			N 51 45 W	S 51 46 E	3775	Marsh.
9	38 07 05.36	75 52 17.32	S 78 03 E	N 78 01 W	6776	Fairmount Church.
			N 41 28 E	S 41 29 W	2161	St. Pierre.
			N 27 41 W	S 27 42 E	2579	Marsh.
10	38 05 46.90	75 53 38.71	S 64 08 E	N 64 08 W	2169	Prickly.
			N 11 07 E	S 11 08 W	5024	Marsh.
			N 65 03 W	S 65 05 E	5757	Joshua.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

DRUM POINT.

(*Lower Manokin River—Chart No. 7.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 04 32.62	75 53 15.53	S 12 16 E	N 12 16 W	5552	Flat Cap.
			S 37 08 E	N 37 07 W	2445	Has.
			N 40 34 E	S 40 35 W	2052	Prickly.
2	38 04 49.82	75 53 40.47	S 17 05 E	N 17 04 W	6283	Flat Cap.
			S 40 08 E	N 40 08 W	3321	Has.
			N 63 55 E	S 63 56 W	2225	Prickly
3	38 05 46.90	75 53 38.71	S 64 08 E	N 64 08 W	2169	Prickly.
			N 11 07 E	S 11 08 W	5024	Marsh.
			N 65 03 W	S 65 05 E	5757	Joshua.
4	38 07 05.36	75 52 17.32	S 78 03 E	N 78 01 W	6776	Fairmount Church.
			N 41 28 E	S 41 29 W	2161	St. Pierre.
			N 27 41 W	S 27 42 E	2579	Marsh.
5	38 07 03.79	75 51 10.99	S 74 29 E	N 74 27 W	5046	Fairmount Church.
			N 11 21 W	S 11 22 E	1705	St. Pierre.
			N 51 45 W	S 51 46 E	3775	Marsh.
6	38 07 34.98	75 50 51.58	S 61 04 E	N 61 02 W	4965	Fairmount Church.
			N 13 42 E	S 13 42 W	2314	Jean.
			N 53 58 W	S 53 58 E	1054	St. Pierre.
7	38 07 33.63	75 50 42.00	S 60-03 E	N 60 01 W	4720	Fairmount Church.
			N 70 06 E	S 70 07 W	1959	Staff.
			N 7 16 E	S 7 16 W	2313	Jean.
8	38 07 22.98	75 50 41.10	S 63 50 E	N 63 48 W	4530	Fairmount Church.
			N 60 34 E	S 60 35 W	2088	Staff.
			N 5 48 E	S 5 48 W	3761	Jean.
9	38 07 14.55	75 50 47.49	S 67 59 E	N 67 57 W	4569	Fairmount Church.
			N 56 37 E	S 56 38 W	2382	Staff.
			N 36 18 W	S 36 18 E	1624	St. Pierre.
10	38 06 59.16	75 50 46.00	S 74 06 E	N 74 05 W	4361	Fairmount Church.
			N 46 49 E	S 46 50 W	2673	Staff.
			N 28 43 W	S 28 43 E	2084	St. Pierre.
11	38 06 35.34	75 51 56.97	S 86 18 E	N 86 15 W	6100	Fairmount Church.
			N 18 40 E	S 18 40 W	2778	St. Pierre.
			N 27 50 W	S 27 51 E	3728	Marsh.
12	38 06 05.78	75 52 32.34	S 6 36 E	N 6 36 W	1593	Prickly.
			N 85 04 E	S 85 07 W	7056	Fairmount Church.
			N 26 46 E	S 26 47 W	4064	St. Pierre.
13	38 05 56.46	75 53 00.24	S 36 05 E	N 36 04 W	1569	Prickly.
			N 33 08 E	S 33 09 W	4708	St. Pierre.
			N 0 41 W	S 0 41 E	4607	Marsh.
14	38 05 01.80	75 52 41.83	N 19 48 E	S 19 49 W	6149	St. Pierre.
			N 4 50 W	S 4 50 E	6473	Marsh.
			N 59 37 W	S 59 39 E	7808	Joshua.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

PRICKLY POINT.

(*Mouth Manokin River—Chart No. 7.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 04 28.72	75 53 19.95	S 13 47 E	N 13 46 W	5452	Flat Cap.
			S 41 06 E	N 41 05 W	2426	Has.
			N 40 40 E	S 40 41 W	2228	Prickly.
2	38 04 50.38	75 54 16.08	S 24 53 E	N 24 52 W	6641	Flat Cap.
			S 50 24 E	N 50 22 W	4011	Has.
			N 71 58 E	S 71 59 W	3100	Prickly.
3	38 05 17.10	75 54 19.78	S 22 41 E	N 22 40 W	7505	Flat Cap.
			S 42 41 E	N 42 40 W	4704	Has.
			N 88 54 E	S 88 55 W	3047	Prickly.
4	38 04 49.82	75 53 40.47	S 17 05 E	N 17 04 W	6283	Flat Cap.
			S 40 08 E	N 40 08 W	3321	Has.
			N 63 55 E	S 63 56 W	2225	Prickly.
5	38 04 32.62	75 53 15.53	S 12 16 E	N 12 16 W	5552	Flat Cap.
			S 37 08 E	N 37 07 W	2445	Has.
			N 40 34 E	S 40 35 W	2052	Prickly.

PINEY ISLAND EAST.

(*Middle Tangier Sound—Chart No. 7.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 03 05.04	75 54 16.59	S 48 39 E	N 48 37 W	3742	Flat Cap.
			N 72 14 E	S 72 15 W	3260	Has.
			N 28 06 W	S 28 08 E	8939	Joshua.
2	38 04 19.61	75 54 49.20	S 36 25 E	N 36 23 W	6196	Flat Cap.
			S 69 05 E	N 69 03 W	4255	Has.
			N 62 28 E	S 62 30 W	4320	Prickly.
3	38 04 12.34	75 53 21.76	S 15 49 E	N 15 48 W	4929	Flat Cap.
			S 52 10 E	N 52 10 W	2079	Has.
			N 33 47 E	S 33 48 W	2698	Prickly.
4	38 03 23.75	75 53 02.85	S 15 11 E	N 15 10 W	3216	Flat Cap.
			N 72 18 E	S 72 19 W	1194	Has.
			N 40 24 W	S 40 27 E	9527	Joshua.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

HARRIS.

(*Middle Tangier Sound—Chart No. 7.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 02 37.94	75 54 04.81	S 58 00 E	N 57 59 W	2942	Flat Cap.
			N 55 38 E	S 55 39 W	3380	Has.
			N 27 13 W	S 27 15 E	9894	Joshua.
2	38 03 05.04	75 54 16.59	S 48 39 E	N 48 37 W	3742	Flat Cap.
			N 72 14 E	S 72 15 W	3260	Has.
			N 28 06 W	S 28 08 E	8939	Joshua.
3	38 03 23.75	75 53 02.85	S 15 11 E	N 15 10 W	3216	Flat Cap.
			N 72 18 E	S 72 19 W	1194	Has.
			N 40 24 W	S 40 27 E	9527	Joshua.
4	38 02 40.04	75 52 45.88	S 13 26 E	N 13 26 W	1675	Flat Cap.
			N 58 48 E	S 58 49 W	5484	Ford.
			N 20 28 E	S 20 28 W	1961	Has.

BIG ANNEMESSEX.

(*Big Annemessex River—Chart No. 7.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 02 50.93	75 51 45.86	N 51 20 E	S 51 21 W	3959	Ford.
			N 31 53 W	S 31 53 E	1731	Has.
			S 31 14 W	N 31 14 E	2336	Flat Cap.
2	38 03 16.52	75 51 49.69	N 63 14 E	S 63 15 W	3576	Ford.
			N 53 14 W	S 53 14 E	1014	Has.
			S 21 12 W	N 21 12 E	3066	Flat Cap.
3	38 03 45.06	75 51 07.58	S 30 17 W	N 30 17 E	4426	Flat Cap.
			S 55 12 E	N 55 11 W	3314	Geog.
			N 72 37 E	S 72 37 W	2170	Ford.
4	38 03 51.42	75 49 12.66	N 66 25 W	S 66 25 E	1084	Ford.
			S 9 16 W	N 9 16 E	2134	Geog.
			S 43 22 E	N 43 21 W	2420	Colburn.
5	38 03 08.18	75 48 47.60	S 73 07 E	N 73 06 W	1039	Colburn.
			N 44 50 E	S 44 50 W	1650	Moon.
			N 41 17 W	S 41 18 E	2517	Ford.
6	38 03 03.08	75 48 54.81	S 83 45 E	N 83 45 W	1193	Colburn.
			N 45 17 E	S 45 17 W	1908	Moon.
			N 35 27 W	S 35 27 E	2533	Ford.
7	38 03 17.77	75 49 31.17	S 8 47 E	N 8 47 W	982	Geog.
			N 69 58 E	S 69 59 W	2475	Moon.
			N 17 40 W	S 17 40 E	1646	Ford.
8	38 03 05.44	75 50 32.58	S 72 45 E	N 72 44 W	1872	Geog.
			N 29 50 E	S 29 50 W	2287	Ford.
			N 71 07 W	S 71 08 E	3031	Has.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

CHURCH CREEK.

(Chesapeake Bay—Off Smith Island—Chart No. 8.)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	37 58 41.19	76 04 16.61	N 89 55 E	S 89 56 W	2791	Old Church (Smith Island).
			N 60 15 E	S 60 16 W	4167	North Church(Smith Isl'd).
			N 22 06 E	S 22 07 W	7531	Fog.
2	37 58 53.37	76 05 41.59	S 85 25 E	N 85 23 W	5075	Old Church (Smith Island).
			N 74 16 E	S 74 18 W	6114	North Church(Smith Isl'd).
			N 37 49 E	S 37 52 W	8316	Fog.
3	37 59 53.49	76 05 47.45	S 65 00 E	N 64 58 W	5755	Old Church (Smith Island).
			S 86 31 E	N 86 28 W	6053	North Church (Smith Isl'd).
			N 49 10 E	S 49 12 W	6945	Fog.
4	38 00 01.79	76 04 12.09	S 44 32 E	N 44 31 W	3807	Old Church (Smith Island).
			S 79 28 E	N 79 27 W	3557	North Church (Smith Isl'd).
			N 32 29 E	S 32 30 W	5050	Fog.

PHILIBYS.

(Lower Tangier Sound—Chart No. 9.)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	37 56 57.88	75 54 49.54	N 59 04 E	S 59 05 W	4041	Somers Cove Light.
			N 15 01 W	S 15 01 E	1771	Janes Island Light.
			N 86 25 W	S 86 28 E	7711	Horse.
2	37 57 10.16	75 55 47.46	N 71 38 E	S 71 40 W	5281	Somers Cove Light.
			N 39 59 E	S 40 00 W	1692	Janes Island Light.
			N 89 24 W	S 89 26 E	6149	Horse.
3	37 57 36.68	75 54 13.91	N 74 05 W	S 74 05 E	1467	Janes Island Light.
			S 1 46 W	N 1 46 E	7833	Fox Island Poplar.
			N 73 00 E	S 73 01 W	2629	Somers Cove Light.
4	37 57 06.76	75 54 25.70	S 0 37 E	N 0 37 W	6821	Fox Island Poplar.
			N 57 52 E	S 57 53 W	3341	Somers Cove Light.
			N 37 49 W	S 37 50 E	1786	Janes Island Light.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

GREAT ROCK.

(*Lower Tangier Sound—Chart No. 9.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	37 55 03.68	75 55 47.80	S 40 19 E	N 40 18 W	3504	Fox Island Poplar.
			N 11 09 E	S 11 10 W	5668	Janes Island Light.
			N 54 48 W	S 54 51 E	7514	Horse.
2	37 55 04.91	75 56 45.03	S 54 27 E	N 54 26 W	4665	Fox Island Poplar.
			N 25 26 E	S 25 27 W	6112	Janes Island Light.
			N 47 05 W	S 47 07 E	6298	Horse.
3	37 56 05.24	75 56.31.32	N 58 03 E	S 58 06 W	7286	Somers Cove Light.
			N 32 56 E	S 32 57 W	4153	Janes Island Light.
			N 65 38 W	S 65 40 E	5465	Horse.
4	37 57 10.16	75 55 47.46	N 71 38 E	S 71 40 W	5281	Somers Cove Light.
			N 39 59 E	S 40 00 W	1692	Janes Island Light.
			N 89 24 W	S 89 26 E	6149	Horse.
5	37 56 57.88	75 54 49.54	N 59 04 E	S 59 05 W	4041	Somers Cove Light.
			N 15 01 W	S 15 01 E	1771	Janes Island Light.
			N 86 25 W	S 86 28 E	7711	Horse.

FOX ISLAND.

(*Lower Tangier Sound—Chart No. 9.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	37 54 26.23	75 56 53.80	S 70 45 E	N 70 43 W	4269	Fox Island Poplar
			N 22 44 E	S 22 45 W	7398	Janes Island Light.
			N 38 03 W	S 38 05 E	7103	Horse.
2	37 55 04.91	75 56 45.03	S 54 27 E	N 54 26 W	4665	Fox Island Poplar.
			N 25 26 E	S 25 27 W	6112	Janes Island Light.
			N 47 05 W	S 47 07 E	6298	Horse.
3	37 55 03.68	75 55 47.80	S 40 19 E	N 40 18 W	3504	Fox Island Poplar.
			N 11 09 E	S 11 10 W	5668	Janes Island Light.
			N 54 48 W	S 54 51 E	7514	Horse.
4	37 54 29.34	75 56 05.26	S 61 02 E	N 61 01 W	3124	Fox Island Poplar.
			N 13 06 E	S 13 06 W	6898	Janes Island Light.
			N 45 57 W	S 45 59 E	7894	Horse.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

STONE.

(*Northern Pocomoke Sound—Chart No. 9.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	37 55 41.57	75 48 32.21	S 85 52 E	N 85 49 W	8251	Saxis Church.
			N 7 51 E	S 7 51 W	2676	Monkey.
			N 88 43 W	S 88 44 E	2467	East.
2	37 55 53.60	75 48 43.03	S 83 19 E	N 83 15 W	8577	Saxis Church.
			N 16 15 E	S 16 15 W	2339	Monkey.
			S 80 51 W	N 80 50 E	2206	East.
3	37 56 11.53	75 48 29.22	N 65 24 E	S 65 27 W	7473	Scot.
			N 9 52 E	S 9 53 W	1666	Monkey.
			S 69 26 W	N 69 25 E	2720	East.
4	37 56 01.22	75 48 05.47	N 60 42 E	S 60 45 W	7065	Scot.
			N 9 56 W	S 9 56 E	2021	Monkey.
			S 79 11 W	N 79 10 E	3238	East.
5	37 55 50.76	75 47 52.93	S 82 49 E	N 82 46 W	7237	Saxis Church.
			N 16 16 W	S 16 16 E	2439	Monkey.
			S 85 52 W	N 85 53 E	3525	East.
6	37 55 45.79	75 48 13.64	N 2 58 W	S 2 58 E	2517	Monkey.
			S 88 19 W	N 88 18 E	2964	East.
			S 67 30 W	N 67 27 E	10680	Fox Island Poplar.

WATKINS.

(*Northern Pocomoke Sound—Chart No. 9.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	37 56 01.22	75 48 05.47	N 60 42 E	S 60 45 W	7065	Scot.
			N 9 56 W	S 9 56 E	2021	Monkey.
			S 79 11 W	N 79 10 E	3238	East.
2	37 56 11.53	75 48 29.22	N 65 24 E	S 65 27 W	7473	Scot.
			N 9 52 E	S 9 53 W	1666	Monkey.
			S 69 26 W	N 69 25 E	2720	East.
3	37 56 25.34	75 48 44.22	N 69 49 E	S 69 52 W	7666	Scot.
			N 30 16 E	S 30 16 W	1362	Monkey.
			S 56 29 W	N 56 28 E	2573	East.
4	37 56 41.98	75 48 17.81	N 72 12 E	S 72 15 W	6816	Scot.
			N 1 46 W	S 1 46 E	614	Monkey.
			S 55 12 W	N 55 11 E	3472	East.
5	37 56 42.70	75 47 54.58	N 70 40 E	S 70 43 W	6220	Scot.
			N 47 16 W	S 47 17 E	870	Monkey.
			S 59 59 W	N 59 58 E	4009	East.
6	37 56 25.57	75 47 39.00	N 64 12 E	S 64 14 W	6057	Scot.
			N 42 06 W	S 42 06 E	1574	Monkey.
			S 69 50 W	N 69 48 E	4141	East.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

LONG POINT.

(*Northern Pocomoke Sound—Chart No. 9.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	37 56 25.34	75 48 44.22	N 69 49 E	S 69 52 W	7666	Scot.
			N 30 16 E	S 30 16 W	1362	Monkey.
			S 56 29 W	N 56 28 E	2573	East.
2	37 57 00.82	75 48 42.30	S 73 37 W	N 73 36 E	2931	Watermelon Hummock.
			S 40 01 W	N 40 00 E	3418	East
			S 88 09 E	N 88 08 W	635	Monkey.
3	37 57 02.80	75 48 31.38	S 73 57 W	N 73 56 E	3229	Watermelon Hummock.
			S 42 50 W	N 42 49 E	3660	East.
			S 75 31 E	N 75 31 W	354	Monkey.
4	37 56 50.20	75 48 38.72	S 80 50 W	N 80 49 W	2945	Watermelon Hummock.
			S 45 25 W	N 45 24 E	3218	East.
			S 70 55 E	N 70 52 W	8892	Saxis Church.
5	37 56 41.98	75 48 17.81	N 72 12 E	S 72 15 W	6816	Scot.
			N 1 46 W	S 1 46 E	614	Monkey.
			S 55 12 W	N 55 11 E	3472	East.

GUNBY.

(*Middle Pocomoke Sound—Chart No. 10.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	37 56 11.06	75 46 07.04	S 11 50 E	N 11 50 W	4762	Mos.
			S 69 55 E	N 69 54 W	4634	Saxis Church.
			N 43 49 E	S 43 51 W	4330	Scot.
2	37 56 28.98	75 46 40.33	S 19 31 E	N 19 31 W	5586	Mos.
			S 67 17 E	N 67 15 W	5681	Saxis Church.
			N 57 03 E	S 57 04 W	4632	Scot.
3	37 56 48.98	75 46 15.36	S 11 25 E	N 11 24 W	6059	Mos.
			S 57 54 E	N 57 52 W	5399	Saxis Church.
			N 60 11 E	S 60 12 W	3712	Scot.
4	37 56 35.02	75 45 34.66	S 1 10 E	N 1 10 W	5470	Mos.
			S 55 28 E	N 55 27 W	4231	Saxis Church.
			N 42 40 W	S 42 41 E	3150	Scot.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

MARUMSCO.

(*Middle Pocomoke Sound—Chart No. 10.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	37 56 45.40	75 44 30.51	S 15 24 W	N 15 23 E	6034	Mos.
			S 32 50 E	N 32 49 W	3272	Saxis Church.
			N 62 44 E	S 62 46 W	5484	Old.
2	37 57 27.13	75 45 13.96	S 3 30 W	N 3 30 E	7239	Mos.
			S 35 13 E	N 35 12 W	5087	Saxis Church.
			N 70 33 E	S 70 33 W	1678	Scot.
3	37 57 39.07	75 43 56.62	N 72 05 W	S 72 05 E	507	Scot.
			S 10 47 E	N 10 47 W	4641	Saxis Church.
			N 79 58 E	S 79 59 W	4032	Old.
4	37 56 55.12	75 43 48.54	S 11 58 E	N 11 58 W	3146	Saxis Church.
			N 59 49 E	S 59 50 W	4344	Old.
			N 23 11 W	S 23 11 E	1781	Scot.

KITTS CREEK WEST.

(*Upper Pocomoke Sound—Chart No. 10.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	37 58 18.42	75 42 32.72	S 66 44 W	N 66 43 E	2964	Scot.
			S 13 08 W	N 13 07 E	6044	Saxis Church.
			S 70 09 E	N 70 08 W	1841	Old.
2	37 58 26.98	75 42 47.64	S 57 53 W	N 57 52 E	2744	Scot.
			S 8 58 W	N 8 58 E	6251	Saxis Church.
			S 66 47 W	N 66 46 E	2316	Old.
3	37 58 32.00	75 42 41.52	S 56 48 W	N 56 47 E	2973	Scot.
			S 10 10 W	N 10 10 E	6445	Saxis Church.
			S 61 09 E	N 61 09 W	2244	Old.
4	37 58 26.82	75 42 27.42	S 63 06 W	N 63 04 E	3212	Scot.
			S 13 47 W	N 13 47 E	6353	Saxis Church.
			S 60 15 E	N 60 14 W	1831	Old.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

KITTS CREEK EAST.

(*Upper Pocomoke Sound—Chart No. 10.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	37 57 58.16	75 41 47.71	S 82 56 W	N 82 54 E	3954	Scot.
			S 26 20 W	N 26 19 E	5805	Saxis Church.
			N 83 45 E	S 83 45 W	533	Old.
2	37 58 15.78	75 42 26.14	S 69 32 W	N 69 31 E	3093	Scot.
			S 14 57 W	N 14 57 E	6001	Saxis Church.
			S 70 59 E	N 70 58 W	1645	Old.
3	37 58 24.01	75 42 20.96	S 65 54 W	N 65 52 E	3327	Scot.
			S 15 31 W	N 15 30 E	6305	Saxis Church.
			S 60 08 E	N 60 08 W	1634	Old.
4	37 58 16.70	75 42 09.59	S 71 35 W	N 71 34 E	3520	Scot.
			S 18 51 W	N 18 51 E	6158	Saxis Church
			S 63 00 E	N 63 00 W	1249	Old.
5	37 58 06.40	75 41 41.59	S 79 25 W	N 79 23 E	4159	Scot.
			S 26 33 W	N 26 32 E	6131	Saxis Church.
			S 59 00 E	N 59 00 W	426	Old.

BOUNDARIES OF CRAB BOTTOMS.

EXPLANATION OF DESCRIPTIONS OF BOUNDARIES.

The laws providing for the survey of the oyster bars of Maryland also contain a section which requires "an accurate survey of and delineation upon the maps and charts aforesaid of all bottoms of the tributaries of the Chesapeake Bay where grass grows and it is profitable to scrape for soft shell or shedder crabs, and shall have such bottoms properly designated by permanent objects on the shore, as provided hereinbefore for natural oyster beds, bars, and rocks, which said crabbing sections shall be exempt from leasing for oyster culture."

The crab bottoms of Somerset County are the first ones to be surveyed in Maryland,[a] and as far as known such a survey is altogether a new problem which differs[b] in many ways from that of a survey of oyster bars.

In a general way it can be stated that the boundaries of the crab bottoms as established by the Maryland Shell Fish Commission and delineated on the "Charts of Oyster Bars," published by the Coast and Geodetic Survey, are confined to waters between the 1-fathom contour (6 feet depth of water) and the shore line. Therefore, in most cases the mean low water line of the shore has been adopted as an inner boundary for the

[a] Anne Arundel County has no crab bottoms within the meaning of the law.

[b] See pages 69 to 70 of "First Annual Report of Maryland Shell Fish Commission" for description of "Survey of crabbing grounds."

crab bottoms, but the same system of straight lines and numbered corners used to delineate the oyster bars has been retained for defining the offshore water boundaries.

There are 54 individual "crab bottoms" in Somerset County exempt from leasing for oyster culture which have been surveyed and delineated under separate names by the Commission, and their total area as determined by the hydrographic engineer of the Commission is 32,108 acres. The largest of these bottoms is 2,182 acres and the smallest 23 acres.

The boundaries of the crab bottoms of Somerset County as established by the Shell Fish Commission and shown on the Coast and Geodetic Survey charts and projections and on the "leasing charts" of the Commission are technically defined and described by a method but little different from that used for the description of the boundaries of oyster bars.

The descriptions have been arranged in tabular form, thus avoiding many hundred repetitions of the same words by making one explanation of the tables sufficient for all crabbing bottoms in the county.

At the top of each tabular form is given the legal name of the crab bottom to be described, its general locality, and the serial numbers of the "Charts of Oyster Bars" of Maryland on which its boundaries are shown.

The first column, under the heading of "Corner of bottom," gives the number corresponding to the corner of the boundary as shown on the charts. These numbers have been assigned to the corners of the crab bottoms in a slightly different manner from that used in describing the oyster bars, although both proceed in a clockwise direction around their boundaries. In delineating the crab bottoms it was generally planned to have both the first and last corners fall on land, thus making the mean low-water line of the shore between these two corners form the connecting boundary, as is always stated in such cases in a note at the bottom of the tabular descriptions. Where a corner of one bottom is identical with the corners of one or more other crab bottoms, oyster bars, or clam beds, only the number of the crab bottom being described in the table is given in this column.

The second and third columns, under the headings of "Latitude" and "Longitude," give the geographic positions of the corners. These positions have been adopted by the Commission as the primary technical definitions of the corners, and should be considered as final in case of a dispute arising from discrepancies caused by other means of location. The latitudes and longitudes given in these columns are based on the United States standard datum of the Coast and Geodetic Survey, and the points thus defined can be relocated from distant triangulation stations of the Survey, even though all the landmarks and buoys used for their original location have been destroyed.

The fourth and fifth columns, under the general heading of "True bearing" [a] and the specific headings of "Forward" and "Back," give bearings measured from a true north and south line. The three "Forward" bearings are from the corner of the boundary designated in the first column to the triangulation stations named on the corresponding lines in the last column, and the three "Back" bearings are from these same stations in the last column to the corresponding corner of boundary in the first column.

[a] The mean magnetic variation of Somerset County for 1908 was 5° 30′ west of north and increasing at the rate of 3′ yearly.

The sixth column, under the heading of "Distance," gives the three computed distances in yards from the corner of the crab bottom noted in the first column to the three triangulation stations named on the corresponding lines in the last column, and vice versa.

The seventh and last column, under the heading of "U. S. C. & G. S. triangulation station," gives the names of the landmarks from which were computed the corresponding "Latitude," "Longitude," "True bearing," and "Distance" of the "Corner of the bottom" designated in the first column. A full description of the location and markings of these triangulation stations is given in another part of this publication, under the heading of "Descriptions of landmarks."

The descriptive note of the shore line boundary which usually follows the description of the last corner on the tabular form and sometimes between intermediate corners which happen to fall on land requires no explanation, other than to state that the laws of Maryland reserve to riparian owners all waters of "any creek, cove, or inlet less than one hundred yards in width at its mouth at low tide."

SURVEYING METHODS FOR RELOCATION OF BOUNDARIES.

There are a number of methods that can be used in the relocation of the actual boundaries of the crab bottoms as technically described in this publication and delineated on the published charts of the Coast and Geodetic Survey, but as they are practically the same as those required for the relocation of oyster-bar boundaries the description of the "Surveying methods for relocation of boundaries" under the heading of "Boundaries of oyster bars" in this publication will be sufficient to indicate several methods that can be used in the relocation of crab-bottom boundaries.

BOUNDARIES OF CRAB BOTTOMS.

DEEP BANKS.

(Inner Holland Straits—Charts Nos. 5 and 6.)

Corner of bottom	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 07 32.98	76 02 06.20	S 40 11 W	N 40 10 E	9076	Holland Island Bar Light.
			S 36 24 E	N 36 23 W	4494	Miles.
			N 64 29 E	S 64 30 W	2435	Senator.
2	38 07 45.04	76 02 35.76	S 34 36 E	N 34 36 E	8920	Holland Island Bar Light.
			S 40 39 E	N 40 38 W	5303	Miles.
			N 77 51 E	S 77 52 W	3054	Senator.
3	38 08 50.58	76 01 53.42	S 32 59 W	N 32 56 E	11384	Holland Island Bar Light.
			S 20 28 E	N 20 27 W	6653	Miles
			S 49 51 E	N 49 50 W	2431	Senator.
4	38 08 04.09	76 00 43.66	S 5 43 E	N 5 43 W	4689	Miles.
			S 70 11 E	N 70 09 W	6484	Joshua.
			N 80 42 E	S 80 45 W	5117	Bar.

Thence from corner No. 4 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

BOUNDARIES OF CRAB BOTTOMS—continued.

HOLLAND STRAITS.

(*West Tangier Sound—Charts Nos. 5, 6, and 7.*)

Corner of bottom	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 08 04.09	76 00 43.66	S 5 43 E	N 5 43 W	4689	Miles.
			S 70 11 E	N 70 09 W	6484	Joshua.
			N 80 42 E	S 80 45 W	5117	Bar.
2	38 08 50.58	76 01 53.42	S 32 59 W	N 32 56 E	11384	Holland Island Bar Light.
			S 20 28 E	N 20 27 W	6653	Miles.
			S 49 51 E	N 49 50 W	2431	Senator.
3	38 09 26.74	76 00 23.48	S 10 55 W	N 10 55 E	2838	Senator.
			S 87 10 E	N 87 07 W	5546	Deal Island Church.
			N 32 41 W	S 32 41 E	2607	Crab.
4	38 09 06.39	76 00 41.00	S 1 56 W	N 1 56 E	2102	Senator.
			N 86 05 E	S 86 07 W	6019	Deal Island Church.
			N 18 06 W	S 18 06 E	3030	Crab.
5	38 08 42.38	76 00 20.00	S 26 01 W	N 26 01 E	1437	Senator.
			N 77 22 E	S 77 24 W	5582	Deal Island Church.
			N 22 08 W	S 22 08 E	3984	Crab.

PUNGERS CREEK.

(*West Upper Tangier Sound—Charts Nos. 5, 6, and 7.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 08 04.09	76 00 43.66	S 5 43 E	N 5 43 W	4689	Miles.
			S 70 11 E	N 70 09 W	6484	Joshua.
			N 80 42 E	S 80 45 W	5117	Bar.
2	38 08 42.38	76 00 20.00	S 26 01 W	N 26 01 E	1437	Senator.
			N 77 22 E	S 77 24 W	5582	Deal Island Church.
			N 22 08 W	S 22 08 E	3984	Crab.
3	38 06 24.78	76 00 21.47	S 5 22 W	N 5 22 E	1323	Miles.
			N 78 12 E	S 78 14 W	5629	Joshua.
			N 10 01 W	S 10 01 E	3400	Senator.
4	38 05 49.58	76 00 03.78	S 77 38 W	N 77 38 E	609	Miles.
			S 12 54 W	N 12 53 E	6113	Solomons Lump Light.
			N 65 07 E	S 65 09 W	5553	Joshua.
5	38 05 46.97	76 00 23.58	N 66 27 E	S 66 29 W	6072	Joshua.
			N 6 36 W	S 6 36 E	4654	Senator.
			S 57 11 W	N 57 11 E	80	Miles.

Thence from corner No. 5 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

BOUNDARIES OF CRAB BOTTOMS—continued.

LAWS THOROUGHFARE NORTH.

(*Northeast Tangier Sound—Inside Deal Island—Chart No. 5.*)

Corner of bottom	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 10 00.83	75 56 45.32	N 30 58 W	S 30 58 E	1304	Haines.
			S 58 13 W	N 58 10 E	7468	Senator.
			S 10 46 W	N 10 46 E	1449	Deal Island Church.
2	38 10 12.78	75 56 36.20	N 51 57 W	S 51 57 E	1160	Haines.
			S 56 39 W	N 56 37 E	7889	Senator.
			S 15 42 W	N 15 42 E	1897	Deal Island Church.

Thence from corner No. 2 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

DEAL ISLAND.

(*East Upper Tangier Sound—Charts Nos. 5 and 7.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 07 50.57	75 57 26.57	N 85 01 W	S 85 03 E	5269	Senator.
			S 48 40 W	N 48 38 E	6371	Miles.
			S 26 00 E	N 26 00 W	1940	Joshua.
2	38 07 49.36	75 57 48.36	N 83 55 W	S 83 53 E	4695	Senator.
			S 45 14 W	N 45 13 E	5920	Miles.
			S 40 02 E	N 40 01 W	2224	Joshua.
3	38 07 49.58	75 58 08.32	N 83 15 W	S 83 16 E	4167	Senator.
			S 41 19 W	N 41 18 E	5561	Miles.
			S 48 56 E	N 48 55 W	2603	Joshua.
4	38 08 20.24	75 58 12.82	N 74 45 E	S 74 45 W	1071	Bar.
			N 46 20 E	S 46 21 W	2848	Deal Island Church.
			S 82 17 W	N 82 15 E	4054	Senator.
5	38 08 47.88	75 57 40.59	S 15 01 E	N 15 01 W	674	Bar.
			N 49 18 E	S 49 18 W	1585	Deal Island Church.
			N 12 37 E	S 12 37 W	3666	Haines.
6	38 08 50.96	75 57 21.51	N 36 43 E	S 36 43 W	1160	Deal Island Church.
			N 4 49 E	S 4 49 W	3486	Haines.
			S 23 52 W	N 23 52 E	825	Bar.

Thence from corner No. 6 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

BOUNDARIES OF CRAB BOTTOMS—continued.

LAWS THOROUGHFARE SOUTH.

(*North Manokin River—Inside of Deal Island—Charts Nos. 5 and 7.*)

Corner of bottom	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 08 17.58	75 54 13.80	S 73 20 W	N 73 20 E	680	Kelley.
			S 25 36 E	N 25 35 W	6683	Prickly.
			S 85 28 E	N 85 27 W	1909	Marsh.
2	38 07 54.55	75 53 44.94	S 89 25 E	N 89 21 W	3765	St. Pierre.
			N 61 07 E	S 61 07 W	1296	Marsh.
			N 67 43 W	S 67 44 E	1534	Kelley.
3	38 07 20.78	75 55 27.89	N 65 32 E	S 65 33 W	4260	Marsh.
			N 37 32 E	S 37 32 W	2170	Kelley.
			S 72 17 W	N 72 16 E	2427	Joshua.
4	38 07 33.58	75 55 38.18	S 60 08 W	N 60 07 E	2350	Joshua.
			S 48 31 E	N 48 29 W	6856	Prickly.
			N 51 05 E	S 51 05 W	2052	Kelley.

Thence from corner No. 4 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

MARSH ISLAND.

(*North Shore Manokin River—Charts Nos. 5 and 7.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 08 13.09	75 53 02.32	S 68 00 W	N 67 57 E	6675	Joshua.
			S 9 29 E	N 9 29 W	5957	Prickly.
			S 75 49 E	N 75 48 W	2712	St. Pierre.
2	38 07 54.55	75 53 44.94	S 89 25 E	N 89 21 W	3765	St. Pierre.
			N 61 07 E	S 61 07 W	1296	Marsh.
			N 67 43 W	S 67 44 E	1534	Kelley.
3	38 08 17.58	75 54 13.80	S 73 20 W	N 73 20 E	680	Kelley.
			S 25 36 E	N 25 35 W	6683	Prickly.
			S 85 28 E	N 85 27 W	1909	Marsh.

Thence from corner No. 3 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

BOUNDARIES OF CRAB BOTTOMS—continued.

ST. PIERRE.

(*North Shore Manokin River—Charts Nos. 5 and 7.*)

Corner of bottom	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 08 13.08	75 51 18.98	S 10 30 W	N 10 30 E	676	St. Pierre.
			S 87 56 E	N 87 54 W	4276	Cupola.
			N 52 58 E	S 52 59 W	1601	Jean.
2	38 08 15.04	75 50 56.73	S 44 25 W	N 44 25 E	1023	St. Pierre.
			S 71 55 E	N 71 55 W	2350	Staff.
			N 37 21 E	S 37 22 W	1130	Jean.
3	38 07 37.55	75 51 09.09	S 62 39 E	N 62 37 W	5417	Fairmount Church.
			N 35 54 W	S 35 54 E	659	St. Pierre.
			N 68 19 W	S 68 20 E	3245	Marsh.
4	38 07 38.06	75 52 23.58	N 72 05 E	S 72 05 W	1679	St. Pierre.
			N 41 08 W	S 41 09 E	1568	Marsh.
			N 72 23 W	S 72 25 E	3763	Kelley.
5	38 07 37.14	75 53 26.26	N 80 28 E	S 80 30 W	3313	St. Pierre.
			N 27 45 E	S 27 45 W	1369	Marsh.
			N 58 38 W	S 58 37 E	2256	Kelley.
6	38 07 54.55	75 53 44.94	S 89 25 E	N 89 21 W	3765	St. Pierre.
			N 61 07 E	S 61 07 W	1296	Marsh.
			N 67 43 W	S 67 44 E	1534	Kelley.
7	38 08 13.09	75 53 02.32	S 68 00 W	N 67 57 E	6675	Joshua.
			S 9 29 E	N 9 29 W	5957	Prickly.
			S 75 49 E	N 75 48 W	2712	St. Pierre.

Thence from corner No. 7 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

GEANQUAKIN.

(*North Shore Manokin River—Charts Nos. 5 and 7.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 09 02.82	75 50 09.12	S 39 08 W	N 39 09 E	920	Jean.
			S 22 26 E	N 22 26 W	2531	Staff.
			S 64 07 E	N 64 06 W	2942	Sandy.
2	38 08 41.22	75 50 12.44	N 88 14 W	S 88 14 E	492	Jean.
			S 33 12 E	N 33 11 W	1927	Staff.
			S 78 31 E	N 78 30 W	2791	Sandy.
3	38 08 15.04	75 50 56.73	S 44 25 W	N 44 25 E	1023	St. Pierre.
			S 71 55 E	N 71 55 W	2350	Staff.
			N 37 21 E	S 37 22 W	1130	Jean.
4	38 08 13.08	75 51 18.98	S 10 30 W	N 10 30 E	676	St. Pierre.
			S 87 56 E	N 87 54 W	4276	Cupola.
			N 52 58 E	S 52 59 W	1601	Jean.

Thence from corner No. 4 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

BOUNDARIES OF CRAB BOTTOMS—continued.

SPRING ISLAND.

(*East Shore Holland Straits—Chart No. 6.*)

Corner of bottom	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 06 39.86	76 03 17.80	S 37 30 W	N 37 28 E	6484	Holland Island Bar Light.
			S 68 15 E	N 68 13 W	4926	Miles.
			N 55 19 E	S 55 20 W	4992	Senator.
2	38 07 45.04	76 02 35.76	S 34 37 W	N 34 36 E	8920	Holland Island Bar Light.
			S 40 39 E	N 40 38 W	5303	Miles.
			N 77 51 E	S 77 52 W	3054	Senator.
3	38 07 32.98	76 02 06.20	S 40 11 W	N 40 10 E	9076	Holland Island Bar Light.
			S 36 24 E	N 36 23 W	4494	Miles.
			N 64 29 E	S 64 30 W	2435	Senator.

Thence from corner No. 3 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

PRY COVE.

(*East Shore Holland Straits—Chart No. 6.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 05 44.11	76 03 44.60	S 44 43 W	N 44 42 E	4594	Holland Island Bar Light.
			S 15 12 E	N 15 11 W	7546	Fog.
			S 38 05 E	N 38 03 W	7318	Solomons Lump Light.
2	38 06 39.86	76 03 17.80	S 37 30 W	N 37 28 E	6484	Holland Island Bar Light.
			S 68 15 E	N 68 13 W	4926	Miles.
			N 55 19 E	S 55 20 W	4992	Senator.

Thence from corner No. 2 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

BOUNDARIES OF CRAB BOTTOMS—continued.

NORTH KEDGE STRAITS.

(*Entrance Kedge Straits—Chart No. 6.*)

Corner of bottom	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 04 29.67	76 02 08.22	S 82 36 W	N 82 34 E	5851	Holland Island Bar Light.
			S 7 04 W	N 7 04 E	4809	Fog.
			S 30 54 E	N 30 53 W	3805	Solomons Lump Light.
2	38 04 13.84	76 02 35.49	S 87 31 W	N 87 29 E	5080	Holland Island Bar Light.
			S 1 50 E	N 1 50 W	4241	Fog.
			S 44 28 E	N 44 27 W	3826	Solomons Lump Light.
3	38 04 29.16	76 03 45.49	S 77 04 W	N 77 02 E	3293	Holland Island Bar Light
			S 22 50 E	N 22 50 W	5160	Fog.
			S 54 28 E	N 54 27 W	5587	Solomons Lump Light.
4	38 05 01.98	76 03 40.24	S 61 10 W	N 61 08 E	3823	Holland Island Bar Light.
			S 17 38 E	N 17 37 W	6150	Fog.
			S 45 21 E	N 45 20 W	6195	Solomons Lump Light.
5	38 05 10.20	76 04 00.70	S 52 53 W	N 52 52 E	3516	Holland Island Bar Light.
			S 21 25 E	N 21 24 W	6593	Fog.
			S 46 56 E	N 46 54 W	6780	Solomons Lump Light.
6	38 05 44.11	76 03 44.60	S 44 43 W	N 44 42 E	4594	Holland Island Bar Light.
			S 15 12 E	N 15 11 W	7546	Fog.
			S 38 05 E	N 38 03 W	7318	Solomons Lump Light.

Thence from corner No. 6 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

SHEEPSHEAD.

(*North Kedge Straits—Charts Nos. 6 and 7.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 04 14.98	76 00 47.58	S 4 04 W	N 4 03 E	2777	Solomons Lump Light.
			N 48 18 E	S 48 21 W	8310	Joshua.
			N 10 36 E	S 10 36 W	3112	Miles.
2	38 03 07.81	75 59 52.42	N 31 17 E	S 31 19 W	9118	Joshua.
			N 9 34 W	S 9 35 E	5399	Miles.
			S 73 09 W	N 73 09 E	1742	Solomons Lump Light.
3	38 03 52.80	76 01 33.90	N 85 49 W	S 85 52 E	6734	Holland Island Bar Light.
			S 23 10 W	N 23 09 E	3837	Fog.
			S 27 11 E	N 27 11 W	2272	Solomons Lump Light.
4	38 04 13.84	76 02 35.49	S 87 31 W	N 87 29 E	5080	Holland Island Bar Light.
			S 1 50 E	N 1 50 W	4241	Fog.
			S 44 28 E	N 44 27 W	3826	Solomons Lump Light.
5	38 04 29.67	76 02 08.22	S 82 36 W	N 82 34 E	5851	Holland Island Bar Light.
			S 7 04 W	N 7 04 E	4809	Fog.
			S 30 54 E	N 30 53 W	3805	Solomons Lump Light.

Thence from corner No. 5 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

BOUNDARIES OF CRAB BOTTOMS—continued.

FISHING POINT.

(*Tangier Sound—Entrance Kedge Straits—Charts Nos. 6 and 7.*)

Corner of bottom	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 02 29.00	76 00 56.80	N 3 31 E	S 3 31 W	805	Solomons Lump Light.
			N 66 43 W	S 66 46 E	8389	Holland Island Bar Light.
			S 74 16 W	N 74 17 E	2587	Fog.
2	38 02 44.78	76 00 55.48	N 2 38 E	S 2 38 W	272	Solomons Lump Light.
			N 70 16 W	S 70 19 E	8224	Holland Island Bar Light.
			S 64 00 W	N 63 59 E	2817	Fog.
3	38 02 28.54	76 00 03.70	N 5 08 W	S 5 08 E	6674	Miles.
			N 59 03 W	S 59 04 E	1593	Solomons Lump Light.
			S 44 24 E	N 44 23 W	4327	Terrapin.
4	38 01 35.00	75 59 10.00	S 51 07 E	N 51 07 W	2050	Terrapin.
			N 18 16 E	S 18 18 W	11502	Joshua.
			N 46 50 W	S 46 51 E	3836	Solomons Lump Light.
5	38 01 28.96	75 59 14.56	S 57 46 E	N 57 45 W	2140	Terrapin.
			N 18 31 W	S 18 30 E	11732	Joshua.
			N 43 25 W	S 43 26 E	3894	Solomons Lump Light.

Thence from corner No. 5 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

SOUTH KEDGE STRAITS.

(*Entrance Kedge Straits—Chart No. 6.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 02 07.00	76 02 34.00	N 68 11 E	S 68 11 W	104	Fog.
			N 59 39 E	S 59 40 W	3060	Solomons Lump Light.
			N 51 35 W	S 51 37 E	6528	Holland Island Bar Light.
2	38 02 30.23	76 02 35.04	N 57 14 W	S 57 14 E	6049	Holland Island Bar Light.
			S 9 26 E	N 9 26 W	755	Fog.
			N 74 03 E	S 74 04 W	2776	Solomons Lump Light.
3	38 02 46.44	76 01 48.74	N 66 40 W	S 66 42 E	6884	Holland Island Bar Light.
			S 40 42 W	N 40 42 E	1704	Fog.
			N 81 27 E	S 81 27 W	1450	Solomons Lump Light.
4	38 02 52.84	76 00 54.95	N 72 03 W	S 72 06 E	8152	Holland Island Bar Light
			S 59 23 W	N 59 22 E	2958	Fog.
			S 42 12 E	N 42 08 W	13840	Janes Island Light.
5	38 02 44.78	76 00 55.48	N 2 38 E	S 2 38 W	272	Solomons Lump Light.
			N 70 16 W	S 70 19 E	8224	Holland Island Bar Light.
			S 64 00 W	N 63 59 E	2817	Fog.
6	38 02 29.00	76 00 56.80	N 3 31 E	S 3 31 W	805	Solomons Lump Light.
			N 66 43 W	S 66 46 E	8389	Holland Island Bar Light.
			S 74 16 W	N 74 17 E	2587	Fog.

Thence from corner No. 6 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide

BOUNDARIES OF CRAB BOTTOMS—continued.

SMITH ISLAND THOROUGHFARE.

(*Smith Island—Charts Nos. 6, 8, and 9.*)

Corner of bottom	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	37 59 49.66	76 02 56.68	S 15 55 E	N 15 55 W	2397	Old Church.
			S 80 46 E	N 80 45 W	1504	North Church.
			N 6 08 W	S 6 08 E	2160	Joseph.
2	38 00 11.66	76 03 01.32	S 14 23 E	N 14 23 W	3145	Old Church.
			S 58 34 W	N 58 34 E	1885	North Church.
			N 4 20 W	S 4 20 E	1410	Joseph.

Thence from corner No. 2 along the mean low-water line of the shore to corner No 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

TERRAPIN SAND.

(*Southwest Tangier Sound—Charts Nos. 7 and 9.*)

	° ′	° ′ ″	° ′	° ′	*Yards.*	
1	38 01 28.96	75 59 14.56	S 57 46 E	N 57 45 W	2140	Terrapin.
			N 18 31 W	S 18 30 E	11732	Joshua.
			N 43 25 W	S 43 26 E	3894	Solomons Lump Light.
2	38 01 35.00	75 59 10.00	S 51 07 E	N 51 07 W	2050	Terrapin.
			N 18 16 E	S 18 18 W	11502	Joshua.
			N 46 50 W	S 46 51 E	3836	Solomons Lump Light.
3	38 01 01.70	75 57 33.37	S 80 30 W	N 80 30 E	995	Terrapin.
			S 23 13 W	N 23 12 E	8424	Horse.
			N 78 09 E	S 78 14 W	8233	Flat Cap.
4	38 00 15.12	75 57 10.17	N 48 42 W	S 48 43 E	2131	Terrapin.
			S 32 34 W	N 32 32 E	7322	Horse.
			S 33 43 E	N 33 42 W	5938	Janes Island Light.
5	38 00 10.56	75 57 23.66	N 38 30 W	S 38 30 E	1994	Terrapin.
			S 30 45 W	N 30 44 E	7002	Horse.
			S 37 22 E	N 37 21 W	6022	Janes Island Light.
6	38 00 18.54	75 58 43.38	S 13 00 W	N 13 00 E	6453	Horse.
			S 48 51 E	N 48 49 W	7680	Janes Island Light.
			N 34 27 E	S 34 27 W	1566	Terrapin.

Thence from corner No. 6 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

BOUNDARIES OF CRAB BOTTOMS—continued.

SOUTH MARSH.

(*West Tangier Sound—Chart No. 7.*)

Corner of bottom	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 05 46.97	76 00 23.58	N 66 27 E	S 66 29 W	6072	Joshua.
			N 6 36 W	S 6 36 E	4654	Senator.
			S 57 11 W	N 57 11 E	80	Miles.
2	38 05 49.58	76 00 03.78	S 77 38 W	N 77 38 E	609	Miles.
			S 12 54 W	N 12 53 E	6113	Solomons Lump Light.
			N 65 07 E	S 65 09 W	5553	Joshua.
3	38 03 40.94	75 59 32.90	N 18 38 W	S 18 38 E	4440	Miles.
			S 53 27 W	N 53 27 E	2723	Solomons Lump Light.
			S 21 45 E	N 21 44 W	5957	Terrapin.
4	38 03 07.81	75 59 52.42	N 31 17 E	S 31 19 W	9118	Joshua.
			N 9 34 W	S 9 35 E	5399	Miles.
			S 73 09 W	N 73 09 E	1742	Solomons Lump Light.
5	38 04 14.98	76 00 47.58	S 4 04 W	N 4 03 E	2777	Solomons Lump Light.
			N 48 18 E	S 48 21 W	8310	Joshua.
			N 10 36 E	S 10 36 W	3112	Miles.

Thence from corner No. 5 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

WENONA.

(*East Upper Tangier Sound—Chart No. 7.*)

	° ′	° ′ ″	° ′	° ′	*Yards.*	
1	38 07 07.07	75 57 00.83	N 72 02 W	S 72 04 E	6239	Senator.
			S 63 23 W	N 63 21 E	6119	Miles.
			S 30 39 E	N 30 38 W	322	Joshua.
2	38 07 07.81	75 57 24.02	N 70 21 W	S 70 23 E	5646	Senator.
			S 60 18 W	N 60 17 E	5584	Miles.
			S 68 54 E	N 68 54 W	839	Joshua.
3	38 07 49.36	75 57 48.36	N 83 55 W	S 83 53 E	4695	Senator.
			S 45 14 W	N 45 13 E	5920	Miles.
			S 40 02 E	N 40 01 W	2224	Joshua.
4	38 07 50.57	75 57 26.57	N 85 01 W	S 85 03 E	5269	Senator.
			S 48 40 W	N 48 38 E	6371	Miles.
			S 26 00 E	N 26 00 W	1940	Joshua.

Thence from corner No. 4 along the mean low-water line of the shore to corner No. 5, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide

5	38 07 37.82	75 56 52.22	N 81 48 W	S 81 51 E	6228	Senator.
			S 56 28 W	N 56 25 E	6838	Miles.
			S 2 50 W	N 2 50 E	1316	Joshua.
6	38 07 37.02	75 56 47.46	N 81 43 W	S 81 46 E	6357	Senator.
			S 57 14 W	N 57 11 E	6929	Miles.
			S 8 29 W	N 8 29 E	1301	Joshua.

Thence from corner No. 6 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

BOUNDARIES OF CRAB BOTTOMS—continued.

LITTLE DEAL ISLAND.

(North Entrance Manokin River—Chart No. 7.)

Corner of bottom	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 07 01.70	75 56 01.94	N 63 17 E	S 63 18 W	5355	Marsh.
			N 43 19 E	S 43 20 W	3249	Kelley.
			S 86 06 W	N 86 05 E	1407	Joshua.
2	38 06 55.34	75 55 50.46	N 59 39 E	S 59 41 W	5201	Marsh.
			N 36 43 E	S 36 44 W	3216	Kelley.
			N 86 02 W	S 86 01 E	1715	Joshua.
3	38 06 40.44	75 56 03.80	N 57 07 E	S 57 05 W	5756	Marsh.
			N 36 29 E	S 36 28 W	3832	Kelley.
			N 65 22 W	S 65 23 E	1491	Joshua.
4	38 06 22.24	75 55 56.58	S 69 12 E	N 69 10 W	6018	Prickly.
			S 29 27 E	N 29 26 W	4243	Kelley.
			N 51 25 W	S 51 25 E	1979	Joshua.
5	38 06 22.82	75 57 00.64	S 73 38 E	N 73 36 W	7643	Prickly.
			N 45 54 E	S 45 55 W	5281	Kelley.
			N 7 28 E	S 7 28 W	1226	Joshua.
6	38 06 55.00	75 56 48.50	S 65 12 E	N 65 10 W	7722	Prickly.
			N 53 15 E	S 53 16 W	4330	Kelley.
			N 51 35 W	S 51 35 E	210	Joshua.

Thence from corner No. 6 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

LOWER THOROUGHFARE.

(Inside of Little Deal Island—Chart No. 7.)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 07 33.58	75 55 38.18	S 60 08 W	N 60 07 E	2350	Joshua.
			S 48 31 E	N 48 29 W	6856	Prickly.
			N 51 05 E	S 51 05 W	2052	Kelley.
2	38 07 20.78	75 55 27.89	N 65 32 E	S 65 33 W	4260	Marsh.
			N 37 32 E	S 37 32 W	2170	Kelley.
			S 72 17 W	N 72 16 E	2427	Joshua.
3	38 06 55.34	75 55 50.46	N 59 39 E	S 59 41 W	5201	Marsh.
			N 36 43 E	S 36 44 W	3216	Kelley
			N 86 02 W	S 86 01 E	1715	Joshua.
4	38 07 01.70	75 56 01.94	N 63 17 E	S 63 18 W	5355	Marsh.
			N 43 19 E	S 43 20 W	3249	Kelley.
			S 86 06 W	N 86 05 E	1407	Joshua.
5	38 07 37.02	75 56 47.46	N 81 43 W	S 81 46 E	6357	Senator.
			S 57 14 W	N 57 11 E	6929	Miles.
			S 8 29 W	N 8 29 E	1301	Joshua.
6	38 07 37.82	75 56 52.22	N 81 48 W	S 81 51 E	6228	Senator.
			S 56 28 W	N 56 25 E	6838	Miles.
			S 2 50 W	N 2 50 E	1316	Joshua.

Thence from corner No. 6 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

BOUNDARIES OF CRAB BOTTOMS—continued.

PINEY ISLAND.

(*Entrance Manokin River—Chart No. 7.*)

Corner of bottom	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 04 50.38	75 54 16.08	S 24 53 E	N 24 52 W	6641	Flat Cap.
			S 50 24 E	N 50 22 W	4011	Has.
			N 71 58 E	S 71 59 W	3100	Prickly.
2	38 05 18.04	75 55 11.98	N 89 39 E	S 89 41 W	4438	Prickly.
			N 8 43 E	S 8 43 W	5916	Kelley.
			N 38 49 W	S 38 50 E	4363	Joshua.
3	38 05 53.05	75 55 42.00	S 77 36 E	N 77 34 W	5362	Prickly.
			N 19 57 E	S 19 57 W	4977	Kelley.
			N 41 02 W	S 41 02 E	2942	Joshua.
4	38 06 30.82	75 55 43.81	N 51 16 E	S 51 18 W	5513	Marsh.
			N 27 09 E	S 27 08 W	3826	Kelley.
			N 63 23 W	S 63 24 E	2111	Joshua.
5	38 06 59.58	75 55 20.55	N 56 02 E	S 56 05 W	4439	Marsh.
			N 24 50 E	S 24 49 W	2683	Kelley.
			S 89 27 W	N 89 26 E.	2508	Joshua.
6	38 06 40.66	75 54 52.43	N 43 15 E	S 43 16 W	4279	Marsh.
			N 7 00 E	S 7 00 W	3096	Kelley.
			N 79 19 W	S 79 20 E	3314	Joshua.
7	38 07 37.14	75 53 26.26	N 80 28 E	S 80 30 W	3313	St. Pierre.
			N 27 45 E	S 27 45 W	1369	Marsh.
			N 58 38 W	S 58 37 E	2256	Kelley.
8	38 07 38.06	75 52 23.58	N 72 05 E	S 72 05 W	1679	St. Pierre.
			N 41 08 W	S 41 09 E	1568	Marsh.
			N 72 23 W	S 72 25 E	3763	Kelley.
9	38 07 04.22	75 53 18.62	N 61 34 E	S 61 36 W	3483	St. Pierre.
			N 10 35 E	S 10 35 W	2362	Marsh.
			N 42 56 W	S 42 57 E	3113	Kelley.
10	38 05 50.40	75 54 24.20	S 71 25 E	N 71 24 W	3338	Prickly.
			N 24 23 E	S 24 25 W	5282	Marsh.
			N 60 03 W	S 60 05 E	4626	Joshua.
11	38 05 17.10	75 54 19.78	S 22 41 E	N 22 40 W	7505	Flat Cap.
			S 42 41 E	N 42 40 W	4704	Has.
			N 88 54 E	S 88 55 W	3047	Prickly.

BOUNDARIES OF CRAB BOTTOMS—continued.

TEAGUE CREEK.

(*South Shore Manokin River—Chart No. 7.*)

Corner of bottom	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 06 48.06	75 50 19.23	S 76 44 E	N 76 44 W	3578	Fairmount Church.
			N 29 12 E	S 29 13 W	2526	Staff.
			N 37 54 W	S 37 54 E	2791	St. Pierre.
2	38 07 00.26	75 50 28.47	S 71 43 E	N 71 42 W	3928	Fairmount Church.
			N 39 36 E	S 39 36 W	2325	Staff.
			N 39 21 W	S 39 21 E	2316	St. Pierre.
3	38 07 36.22	75 50 21.92	S 55 29 E	N 55 28 W	4314	Fairmount Church.
			N 66 06 E	S 66 07 W	1430	Staff.
			N 70 36 W	S 70 36 E	1742	St. Pierre.

Thence from corner No. 3 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

GOOSE CREEK.

(*South Shore Manokin River—Chart No. 7.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 05 18.83	75 52 25.47	N 17 33 E	S 17 34 W	5466	St. Pierre.
			N 64 48 W	S 64 50 E	7926	Joshua.
			S 2 18 E	N 2 18 W	3520	Has.
2	38 05 18.78	75 52 39.20	N 89 35 E	S 89 35 W	366	Prickly.
			N 5 59 W	S 5 59 E	5910	Marsh.
			N 63 36 W	S 63 39 E	7597	Joshua.
3	38 06 05.78	75 52 32.34	S 6 36 E	N 6 36 W	1593	Prickly.
			N 85 04 E	S 85 07 W	7056	Fairmount Church.
			N 26 46 E	S 26 47 W	4964	St. Pierre.
4	38 06 24.82	75 51 34.20	S 89 37 E	N 89 35 W	5481	Fairmount Church.
			N 5 24 E	S 5 24 W	3000	St. Pierre.
			N 32 44 W	S 32 45 E	4340	Marsh.
5	38 06 17.94	75 51 23.71	N 87 51 E	S 87 53 W	5204	Fairmount Church.
			N 0 03 E	S 0 03 W	3214	St. Pierre.
			N 34 04 W	S 34 05 E	4687	Marsh.

Thence from corner No. 5 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

BOUNDARIES OF CRAB BOTTOMS—continued.

MINE CREEK.

(*South Entrance Manokin River—Chart No. 7.*)

Corner of bottom	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 04 19.88	75 52 56.22	S 7 35 E	N 7 35 W	5040	Flat Cap.
			S 32 09 E	N 32 09 W	1807	Has.
			N 22 24 E	S 22 25 W	2150	Prickly.
2	38 04 28.72	75 53 19.95	S 13 47 E	N 13 46 W	5452	Flat Cap.
			S 41 06 E	N 41 05 W	2426	Has.
			N 40 40 E	S 40 41 W	2228	Prickly.
3	38 04 32.62	75 53 15.53	S 12 16 E	N 12 16 W	5552	Flat Cap.
			S 37 08 E	N 37 07 W	2445	Has.
			N 40 34 E	S 40 35 W	2052	Prickly.
4	38 05 01.80	75 52 41.83	N 19 48 E	S 19 49 W	6149	St. Pierre.
			N 4 50 W	S 4 50 E	6473	Marsh.
			N 59 37 W	S 59 39 E	7808	Joshua.
5	38 05 18.78	75 52 39.20	N 89 35 E	S 89 35 W	366	Prickly.
			N 5 59 W	S 5 59 E	5910	Marsh.
			N 63 36 W	S 63 39 E	7597	Joshua.
6	38 05 18.83	75 52 25.47	N 17 33 E	S 17 34 W	5466	St. Pierre.
			N 64 48 W	S 64 50 E	7926	Joshua.
			S 2 18 E	N 2 18 W	3520	Has.

Thence from corner No. 6 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

HAZARD.

(*East Tangier Sound—Chart No. 7.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 03 34.52	75 52 20.16	N 2 18 W	S 2 18 E	3520	Prickly.
			S 84 12 W	N 84 07 E	13798	Solomons Lump Light.
			S 4 53 W	N 4 53 E	3480	Flat Cap.
2	38 03 14.58	75 52 22.80	S 4 38 W	N 4 37 E	2804	Flat Cap.
			S 79 40 E	N 79 38 W	4804	Geog.
			N 5 59 W	S 5 59 E	676	Has.
3	38 03 37.66	75 53 06.76	S 14 50 E	N 14 50 W	3696	Flat Cap.
			S 85 08 E	N 85 07 W	1247	Has.
			N 17 53 E	S 17 53 W	3585	Prickly.
4	38 04 28.72	75 53 19.95	S 13 47 E	N 13 46 W	5452	Flat Cap.
			S 41 06 E	N 41 05 W	2426	Has.
			N 40 40 E	S 40 41 W	2228	Prickly.
5	38 04 19.88	75 52 56.22	S 7 35 E	N 7 35 W	5040	Flat Cap
			S 32 09 E	N 32 09 W	1807	Has.
			N 22 24 E	S 22 25 W	2150	Prickly
6	38 03 40.62	75 52 34 38	S 1 17 E	N 1 17 W	3673	Flat Cap
			S 28 29 E	N 28 29 W	431	Has.
			N 4 06 E	S 4 06 W	3320	Prickly.

Thence from corner No. 6 along the mean low-water line of the shore to corner No 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

BOUNDARIES OF CRAB BOTTOMS—continued.

SHARK POINT.

(North Entrance Big Annemessex River—Chart No. 7.)

Corner of bottom	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 04 03.54	75 51 00.00	S 28 43 W	N 28 42 E	5078	Flat Cap.
			S 45 03 E	N 45 02 W	3559	Geog.
			N 89 13 E	S 89 14 W	1868	Ford.
2	38 03 45.06	75 51 07.58	S 30 17 W	N 30 17 E	4426	Flat Cap.
			S 55 12 E	N 55 11 W	3314	Geog.
			N 72 37 E	S 72 37 W	2170	Ford.
3	38 03 16.52	75 51 49.69	N 63 14 E	S 63 15 W	3576	Ford.
			N 53 14 W	S 53 14 E	1014	Has.
			S 21 12 W	N 21 12 E	3066	Flat Cap.
4	38 03 14.58	75 52 22.80	S 4 38 W	N 4 37 E	2804	Flat Cap.
			S 79 40 E	N 79 38 W	4804	Geog.
			N 5 59 W	S 5 59 E	676	Has.
5	38 03 34.52	75 52 20.16	N 2 18 W	S 2 18 E	3520	Prickly.
			S 84 12 W	N 84 07 E	13798	Solomons Lump Light.
			S 4 53 W	N 4 53 E	3480	Flat Cap.

Thence from corner No 5 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

FORDS WHARF.

(North Shore Big Annemessex River—Chart No. 7.)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 03 59.36	75 49 12.98	N 80 26 W	S 80 26 E	998	Ford.
			S 8 02 W	N 8 02 E	2397	Geog.
			S 73 14 E	N 73 14 W	1923	Moon.
2	38 03 51.42	75 49 12.66	N 66 25 W	S 66 25 E	1084	Ford.
			S 9 16 W	N 9 16 E	2134	Geog.
			S 43 22 E	N 43 21 W	2420	Colburn.
3	38 03 45.06	75 51 07.58	S 30 17 W	N 30 17 E	4426	Flat Cap.
			S 55 12 E	N 55 11 W	3314	Geog.
			N 72 37 E	S 72 37 W	2170	Ford.
4	38 04 03.54	75 51 00.00	S 28 43 W	N 28 42 E	5078	Flat Cap.
			S 45 03 E	N 45 02 W	3559	Geog.
			N 89 13 E	S 89 14 W	1868	Ford.

Thence from corner No. 4 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

BOUNDARIES OF CRAB BOTTOMS—continued.

CRANE COVE.

(*Upper Big Annemessex River—Chart No. 7.*)

Corner of bottom	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 03 42.22	75 48 07.10	S 49 22 W	N 49 21 E	2756	Geog.
			S 3 24 W	N 3 24 E	1452	Colburn.
			N 74 44 E	S 74 44 W	86	Moon.
2	38 03 38.99	75 48 30.78	S 40 53 W	N 40 53 E	2231	Geog.
			S 22 07 E	N 22 07 W	1447	Colburn.
			N 79 33 E	S 79 33 W	711	Moon.
3	38 03 30.79	75 48 41.32	S 39 54 W	N 39 54 E	1838	Geog.
			S 37 50 E	N 37 49 W	1347	Colburn.
			N 67 43 E	S 67 43 W	1076	Moon.
4	38 03 33.72	75 48 44.02	S 36 16 W	N 36 16 E	1871	Geog.
			S 37 41 E	N 37 41 W	1470	Colburn.
			N 73 50 E	S 73 51 W	1112	Moon.

Thence from corner No. 4 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

MOON BAY.

(*Upper Big Annemessex River—Chart No. 7.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 04 32.37	75 47 18.00	N 19 43 W	S 19 44 E	3987	Fairmount Church.
			S 36 18 W	N 36 18 E	2069	Moon.
			S 23 57 W	N 23 57 E	3436	Colburn.
2	38 04 36.08	75 47 11.18	N 22 50 W	S 22 50 E	3937	Fairmount Church.
			S 38 07 W	N 38 06 E	2279	Moon.
			S 25 44 W	N 25 43 E	3625	Colburn.
3	38 04 17.56	75 47 10.50	N 19 58 W	S 19 59 E	4525	Fairmount Church.
			S 50 39 W	N 50 38 E	1843	Moon.
			S 31 08 W	N 31 07 E	3085	Colburn.
4	38 03 51.40	75 47 54.40	N 4 11 W	S 4 11 E	5149	Fairmount Church.
			S 41 37 W	N 41 37 E	384	Moon.
			S 13 35 W	N 13 35 E	1810	Colburn.
5	38 03 34.46	75 47 58.21	N 28 16 W	S 28 16 E	323	Moon.
			S 56 38 W	N 56 37 E	2788	Geog.
			S 15 13 W	N 15 13 E	1231	Colburn.
6	38 03 42.22	75 48 07.10	S 49 22 W	N 49 21 E	2756	Geog.
			S 3 24 W	N 3 24 E	1452	Colburn.
			N 74 44 E	S 74 44 W	86	Moon.

Thence from corner No. 6 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

BOUNDARIES OF CRAB BOTTOMS—continued.

RED CAP CREEK.

(*Upper Big Annemessex River—Chart No. 7.*)

Corner of bottom	Latitude	Longitude	True bearing — Forward	True bearing — Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 04 26.31	75 46 37.60	N 31 27 W	S 31 28 E	4640	Fairmount Church.
			S 57 33 W	N 57 33 E	2727	Moon.
			S 40 07 W	N 40 06 E	3839	Colburn.
2	38 04 44.16	75 46 57.22	N 29 30 W	S 29 31 E	3857	Fairmount Church.
			S 40 44 W	N 40 44 E	2725	Moon.
			S 28 51 W	N 28 51 E	4040	Colburn.

Thence from corner No. 2 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

MILES.

(*Upper Big Annemessex River—Chart No. 7.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 03 52.10	75 46 51.00	N 22 00 W	S 22 00 E	5513	Fairmount Church.
			S 81 01 W	N 81 00 E	1968	Moon.
			S 49 53 W	N 49 52 E	2766	Colburn.
2	38 03 59.10	75 47 02.98	N 19 42 W	S 19 43 E	5179	Fairmount Church.
			S 71 25 W	N 71 25 E	1715	Moon.
			S 41 40 W	N 41 39 E	2701	Colburn.
3	38 04 10.22	75 46 53.34	N 23 59 W	S 24 00 E	4927	Fairmount Church.
			S 63 56 W	N 63 55 E	2095	Moon.
			S 40 37 W	N 40 36 E	3153	Colburn.
4	38 04 07.16	75 46 47.40	N 25 08 W	S 25 09 E	5086	Fairmount Church.
			S 68 08 W	N 68 08 E	2196	Moon.
			S 44 00 W	N 43 59 E	3183	Colburn.

Thence from corner No. 4 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

BOUNDARIES OF CRAB BOTTOMS—continued.

COLBURN.

(*Upper Big Annemessex River—Chart No. 7.*)

Corner of bottom	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 03 25.02	75 47 30.76	N 9 29 W	S 9 29 E	6108	Fairmount Church.
			S 55 44 W	N 55 44 E	1071	Moon.
			S 50 30 W	N 50 30 E	1367	Colburn.
2	38 03 30.00	75 47 32.62	N 9 16 W	S 9 17 E	5934	Fairmount Church.
			N 62 29 W	S 62 30 E	942	Moon.
			S 44 06 W	N 44 06 E	1445	Colburn.
3	38 03 46.98	75 47 28.88	N 11 18 W	S 11 18 E	5388	Fairmount Church.
			S 81 38 W	N 81 37 E	945	Moon.
			S 34 28 W	N 34 28 E	1953	Colburn.
4	38 03 56.66	75 47 23.30	N 13 39 W	S 13 40 E	5102	Fairmount Church.
			S 66 49 W	N 66 49 E	1179	Moon.
			S 32 56 W	N 32 55 E	2307	Colburn.
5	38 03 58.06	75 47 14.60	N 16 18 W	S 16 19 E	5116	Fairmount Church.
			S 68 43 W	N 68 43 E	1409	Moon.
			S 36 50 W	N 36 50 E	2485	Colburn.
6	38 03 47.78	75 46 59.70	N 19 13 W	S 19 14 E	5568	Fairmount Church.
			S 84 31 W	N 84 30 E	1720	Moon.
			S 49 00 W	N 49 00 E	2496	Colburn.

Thence from corner No. 6 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

JACKSON ISLAND.

(*South Shore Big Annemessex River—Chart No. 7.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 02 18.76	75 50 16.42	N 53 06 E	S 53 07 W	1696	Geog.
			N 11 14 E	S 11 14 W	3627	Ford.
			N 52 15 W	S 52 16 E	4173	Has.
2	38 02 16.18	75 50 37.78	N 60 08 E	S 60 09 W	2221	Geog.
			N 19 18 E	S 19 18 W	3862	Ford.
			N 45 56 W	S 45 57 E	3799	Has.
3	38 03 05.44	75 50 32.58	S 72 45 E	N 72 44 W	1872	Geog.
			N 29 50 E	S 29 50 W	2287	Ford.
			N 71 07 W	S 71 08 E	3031	Has.
4	38 03 17.77	75 49 31.17	S 8 47 E	N 8 47 W	982	Geog.
			N 69 58 E	S 69 59 W	2475	Moon.
			N 17 40 W	S 17 40 E	1646	Ford.
5	38 03 03.08	75 48 54.81	S 83 45 E	N 83 45 W	1193	Colburn.
			N 45 17 E	S 45 17 W	1908	Moon.
			N 35 27 W	S 35 27 E	2533	Ford.
6	38 02 40.80	75 49 05.64	N 67 09 E	S 67 10 W	1601	Colburn.
			N 22 45 W	S 22 45 E	3052	Ford.
			N 60 34 W	S 60 34 E	598	Geog.

Thence from corner No. 6 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

BOUNDARIES OF CRAB BOTTOMS—continued.

JONES CREEK.

(*South Shore Big Annemessex River—Chart No. 7.*)

Corner of bottom	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 01 55.18	75 50 19.00	N 38 10 E	S 38 11 W	2306	Geog.
			N 43 57 W	S 43 59 E	4654	Has.
			S 88 06 W	N 88 05 E	3530	Flat Cap.
2	38 02 16.18	75 50 37.78	N 60 08 E	S 60 09 W	2221	Geog.
			N 19 18 E	S 19 18 W	3862	Ford.
			N 45 56 W	S 45 57 E	3799	Has.
3	38 02 18.76	75 50 16.42	N 53 06 E	S 53 07 W	1696	Geog.
			N 11 14 E	S 11 14 W	3627	Ford.
			N 52 15 W	S 52 16 E	4173	Has.

Thence from corner No. 3 along the mean low-water line of the shore to corner No. 4, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

4	38 02 18.80	75 49 56.98	N 39 28 E	S 39 29 W	1319	Geog.
			N 56 13 W	S 56 14 E	4593	Has.
			S 77 30 W	N 77 28 E	4216	Flat Cap.
5	38 02 06.75	75 50 01.30	N 33 49 E	S 33 49 W	1714	Geog.
			N 51 21 W	S 51 23 E	4740	Has.
			S 82 47 W	N 82 46 E	4032	Flat Cap.
6	38 02 07.95	75 49 52.38	N 27 22 E	S 27 22 W	1557	Geog.
			N 53 27 W	S 53 29 E	4904	Has.
			S 82 39 W	N 82 37 E	4273	Flat Cap.

Thence from corner No. 6 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

DAUGHERTY CREEK.

(*South Shore Big Annemessex River—Chart No. 7.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 02 06.39	75 50 54.34	N 58 46 E	S 58 47 W	2769	Geog.
			N 37 36 W	S 37 37 E	3750	Has.
			S 79 10 W	N 79 09 E	2632	Flat Cap.
2	38 02 16.18	75 50 37.78	N 60 08 E	S 60 09 W	2221	Geog.
			N 19 18 E	S 19 18 W	3862	Ford.
			N 45 56 W	S 45 57 E	3799	Has.
3	38 01 55.18	75 50 19.00	N 38 10 E	S 38 11 W	2306	Geog.
			N 43 57 W	S 43 59 E	4654	Has.
			S 88 06 W	N 88 05 E	3530	Flat Cap.

Thence from corner No. 3 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

BOUNDARIES OF CRAB BOTTOMS—continued.

TENTH POINT.

(*South Shore Big Annemessex River—Chart No. 7.*)

Corner of bottom	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 02 10.18	75 52 19.76	S 26 15 W	N 26 15 E	694	Flat Cap.
			N 74 16 E	S 74 17 W	4827	Geog.
			N 0 13 W	S 0 13 E	2842	Has.
2	38 02 23.42	75 52 03.18	N 46 15 E	S 46 16 W	4919	Ford.
			N 10 42 W	S 10 42 E	2440	Has.
			S 35 01 W	N 35 01 E	1314	Flat Cap.
3	38 02 32.43	75 51 27.28	N 39 58 E	S 39 59 W	4041	Ford.
			N 33 57 W	S 33 58 E	2524	Has.
			S 51 11 W	N 51 10 E	2190	Flat Cap.
4	38 02 16.18	75 50 37.78	N 60 08 E	S 60 09 W	2221	Geog.
			N 19 18 E	S 19 18 W	3862	Ford.
			N 45 56 W	S 45 57 E	3799	Has.
5	38 02 06.39	75 50 54.34	N 58 46 E	S 58 47 W	2769	Geog.
			N 37 36 W	S 37 37 E	3750	Has.
			S 79 10 W	N 79 09 E	2632	Flat Cap.

Thence from corner No. 5 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

SHANKS CREEK.

(*Smith Island—Chart No. 8.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	37 57 15.10	76 01 47.78	S 88 19 E	N 88 17 W	3472	Horse.
			N 24 06 E	S 24 07 W	2535	Ewell Church.
			N 22 07 W	S 22 07 E	3138	Old Church.
2	37 57 15.78	76 02 17.53	S 88 20 E	N 88 18 W	4268	Horse.
			N 38 36 E	S 38 37 W	2932	Ewell Church.
			N 7 39 W	S 7 39 E	2909	Old Church.

Thence from corner No. 2 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

BOUNDARIES OF CRAB BOTTOMS—continued.

TYLERS CREEK.

(*Smith Island—Charts Nos. 8 and 9.*)

Corner of bottom	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	37 57 13.20	76 00 24.18	S 88 14 E	N 88 14 W	1239	Horse.
			N 26 42 W	S 26 42 E	2662	Ewell Church.
			N 48 57 W	S 48 59 E	4524	Old Church.
2	37 57 14.16	76 01 05.30	S 88 17 E	N 88 16 W	2338	Horse.
			N 2 24 W	S 2 24 E	2348	Ewell Church.
			N 38 16 W	S 38 15 E	3741	Old Church.

Thence from corner No. 2 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

BIG ISLAND.

(*Southwest Tangier Sound—Chart No. 9.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	37 59 14.18	75 58 57.16	S 14 45 W	N 14 45 E	4257	Horse.
			S 64 53 E	N 64 51 W	6793	Janes Island Light.
			N 19 54 E	S 19 55 W	3681	Terrapin.
2	37 58 13.99	75 57 58.77	S 51 42 W	N 51 41 E	3368	Horse.
			S 79 27 E	N 79 29 W	4672	Janes Island Light.
			N 3 20 W	S 3 21 E	5499	Terrapin.
3	37 57 43.01	75 58 22.82	N 87 55 E	S 87 57 W	5238	Janes Island Light.
			N 2 57 E	S 2 57 W	6544	Terrapin.
			S 62 29 W	N 62 28 E	2257	Horse.
4	37 57 25.62	75 58 29.02	N 81 49 E	S 81 51 W	5456	Janes Island Light.
			N 4 02 E	S 4 02 W	7139	Terrapin.
			S 76 02 W	N 76 01 E	1891	Horse.
5	37 57 06.40	75 58 59.12	N 77 04 E	S 77 06 W	6366	Janes Island Light.
			N 9 32 E	S 9 33 W	7878	Terrapin.
			N 79 30 W	S 79 31 E	1050	Horse.
6	37 57 12.07	75 59 37.78	S 6 49 E	N 6 49 W	8754	Reach Hammock.
			N 80 19 E	S 80 22 W	7341	Janes Island Light.
			N 17 08 E	S 17 09 W	7931	Terrapin.

Thence from corner No. 6 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

BOUNDARIES OF CRAB BOTTOMS—continued.

DRUM.

(*Southwest Tangier Sound—Chart No. 9.*)

Corner of bottom	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 00 18.54	75 58 43.38	S 13 00 W	N 13 00 E	6453	Horse.
			S 48 51 E	N 48 49 W	7680	Janes Island Light.
			N 34 27 E	S 34 27 W	1566	Terrapin.
2	38 00 10.56	75 57 23.66	N 38 30 W	S 38 30 E	1994	Terrapin.
			S 30 45 W	N 30 44 E	7002	Horse.
			S 37 22 E	N 37 21 W	6022	Janes Island Light.
3	37 59 33.26	75 57 20.02	N 25 24 W	S 25 25 E	3119	Terrapin.
			S 37 42 W	N 37 40 E	6015	Horse.
			S 45 15 E	N 45 13 W	5011	Janes Island Light.
4	37 59 12.86	75 56 57.37	N 28 59 W	S 29 00 E	4008	Terrapin.
			S 46 27 W	N 46 26 E	5910	Horse.
			S 46 07 E	N 46 07 W	4098	Janes Island Light.
5	37 58 47.38	75 57 15.60	N 18 27 W	S 18 27 E	4601	Terrapin.
			S 49 45 W	N 49 44 E	4974	Horse.
			S 60 04 E	N 60 03 W	3970	Janes Island Light.
6	37 58 13.99	75 57 58.77	S 51 42 W	N 51 41 E	3368	Horse.
			S 79 27 E	N 79 29 W	4672	Janes Island Light.
			N 3 20 W	S 3 21 E	5499	Terrapin.
7	37 59 14.18	75 58 57.16	S 14 45 W	N 14 45 E	4257	Horse.
			S 64 53 E	N 64 51 W	6793	Janes Island Light.
			N 19 54 E	S 19 55 W	3681	Terrapin.

Thence from corner No. 7 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

OLD HOUSE.

(*Little Annemessex River—Chart No. 9.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	37 58 12.54	75 52 51.94	S 77 22 W	N 77 21 E	3688	Janes Island Light.
			S 36 33 E	N 36 33 W	548	Somers Cove Light.
			N 61 52 E	S 61 53 W	3176	Emmanuel Church.
2	37 58 09.83	75 52 57.62	S 78 17 W	N 78 16 E	3520	Janes Island Light.
			S 53 52 E	N 53 52 W	592	Somers Cove Light.
			N 61 43 E	S 61 45 W	3353	Emmanuel Church.
3	37 58 19.46	75 53 14.30	S 70 53 W	N 70 52 E	3176	Janes Island Light.
			S 53 53 E	N 53 53 W	1143	Somers Cove Light.
			N 69 35 E	S 69 37 W	3625	Emmanuel Church.
4	37 58 16.86	75 53 17.44	S 71 56 W	N 71 54 E	3069	Janes Island Light.
			S 59 48 E	N 59 48 W	1166	Somers Cove Light.
			N 68 46 E	S 68 48 W	3735	Emmanuel Church.

Thence from corner No. 4 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

BOUNDARIES OF CRAB BOTTOMS—continued.

LIGHT HOUSE.

(*Little Annemessex River—Chart No. 9.*)

Corner of bottom	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	37 58 38.61	75 52 04.62	N 74 23 E	S 74 24 W	1912	Mount Pleasant Church.
			S 35 23 W	N 35 23 E	1617	Somers Cove Light.
			S 70 53 W	N 70 51 E	5145	Janes Island Light.
2	37 58 37.49	75 52 03.44	N 73 01 E	S 73 02 W	1893	Mount Pleasant Church.
			S 37 04 W	N 37 04 E	1606	Somers Cove Light.
			S 71 24 W	N 71 22 E	5163	Janes Island Light.
3	37 58 21.34	75 52 20.23	S 35 12 W	N 35 12 E	902	Somers Cove Light.
			N 64 02 E	S 64 03 W	2512	Mount Pleasant Church.
			N 58 26 E	S 58 27 W	2293	Emmanuel Church.
4	37 58 15.18	75 52 17.41	S 48 21 W	N 48 21 E	796	Somers Cove Light.
			N 59 08 E	S 59 09 W	2543	Mount Pleasant Church.
			N 53 09 E	S 53 10 W	2348	Emmanuel Church.
5	37 58 07.17	75 52 27.62	S 51 13 W	N 51 13 E	414	Somers Cove Light.
			N 57 19 E	S 57 20 W	2917	Mount Pleasant Church.
			N 52 03 E	S 52 03 W	2729	Emmanuel Church.
6	37 58 12.24	75 52 31.42	S 27 13 W	N 27 13 E	483	Somers Cove Light.
			N 61 14 E	S 61 15 W	2917	Mount Pleasant Church.
			N 56 13 E	S 56 14 W	2711	Emmanuel Church.
7	37 58 09.98	75 52 35.48	S 17 41 W	N 17 41 E	372	Somers Cove Light.
			N 60 57 E	S 60 58 W	3049	Mount Pleasant Church.
			N 56 09 E	S 56 10 W	2843	Emmanuel Church.
8	37 58 04.50	75 52 32.20	S 49 50 W	N 49 49 E	262	Somers Cove Light.
			N 57 09 E	S 57 10 W	3069	Mount Pleasant Church.
			N 52 08 E	S 52 08 W	2881	Emmanuel Church.
9	37 57 59.48	75 52 39.71	S 84 41 W	N 84 39 E	3941	Janes Island Light.
			S 51 31 E	N 51 30 W	4507	Watermelon Hummock.
			N 51 51 E	S 51 52 W	3136	Emmanuel Church.
10	37 57 57.55	75 52 51.96	N 78 45 E	S 78 45 W	334	Somers Cove Light.
			N 4 00 E	S 4 00 W	7914	Flat Cap.
			S 85 13 W	N 85 12 E	3610	Janes Island Light.
11	37 58 09.83	75 52 57.62	S 78 17 W	N 78 16 E	3520	Janes Island Light.
			S 53 52 E	N 53 52 W	592	Somers Cove Light.
			N 61 43 E	S 61 45 W	3353	Emmanuel Church.
12	37 58 12.54	75 52 51.94	S 77 22 W	N 77 21 E	3688	Janes Island Light.
			S 36 33 E	N 36 33 W	548	Somers Cove Light.
			N 61 52 E	S 61 53 W	3176	Emmanuel Church.

Thence from corner No. 12 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

BOUNDARIES OF CRAB BOTTOMS—continued.

CANCER.

(*Little Annemessex River—Chart No. 9.*)

Corner of bottom	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	37 59 19.28	75 52 02.18	S 62 55 E	N 62 54 W	1655	Emmanuel Church.
			S 20 25 W	N 20 25 E	2871	Somers Cove Light.
			S 58 11 W	N 58 09 E	5797	Janes Island Light.
2	37 59 08.74	75 52 06.27	S 75 53 E	N 75 52 W	1631	Emmanuel Church.
			S 20 55 W	N 20 55 E	2500	Somers Cove Light.
			S 60 44 W	N 60 42 E	5523	Janes Island Light.

Thence from corner No. 2 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

BACK CREEK.

(*Little Annemessex River—Chart No. 9.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	37 58 57.66	75 51 42.16	S 88 31 E	N 88 31 W	943	Emmanuel Church.
			S 38 02 W	N 38 02 E	2492	Somers Cove Light.
			S 66 56 W	N 66 53 E	5936	Janes Island Light.
2	37 58 57.48	75 51 44.76	S 88 58 E	N 88 58 W	1008	Emmanuel Church.
			S 36 52 W	N 36 51 E	2444	Somers Cove Light.
			S 66 43 W	N 66 41 E	5869	Janes Island Light.
3	37 59 11.57	75 51 37.00	S 58 22 E	N 58 21 W	940	Emmanuel Church.
			S 34 33 W	N 34 32 E	2952	Somers Cove Light.
			S 63 28 W	N 63 26 E	6258	Janes Island Light.
4	37 59 28.84	75 51 47.07	S 44 50 E	N 44 50 W	1517	Emmanuel Church.
			S 25 00 W	N 24 59 E	3322	Somers Cove Light.
			S 57 38 W	N 57 37 E	6310	Janes Island Light.
5	37 59 30.96	75 51 59.84	S 50 53 E	N 50 52 W	1818	Emmanuel Church.
			S 18 57 W	N 18 56 E	3261	Somers Cove Light.
			S 55 20 W	N 55 18 E	6066	Janes Island Light.

Thence from corner No. 5 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

BOUNDARIES OF CRAB BOTTOMS—continued.

LAVELLETTE.

(*Little Annemessex River—Chart No. 9.*)

Corner of bottom	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	37 57 32.69	75 51 53.92	N 29 37 E	S 29 38 W	3148	Mount Pleasant Church.
			N 53 32 W	S 53 33 E	1520	Somers Cove Light.
			N 84 02 W	S 84 04 E	5175	Janes Island Light.
2	37 57 32.80	75 51 58.72	N 31 38 E	S 31 39 W	3211	Mount Pleasant Church.
			N 50 35 W	S 50 35 E	1416	Somers Cove Light.
			N 83 55 W	S 83 57 E	5047	Janes Island Light.
3	37 57 51.82	75 52 10.29	N 43 36 E	S 43 37 W	2889	Mount Pleasant Church.
			N 71 48 W	S 71 48 E	827	Somers Cove Light.
			S 88 40 W	N 88 42 E	4714	Janes Island Light.
4	37 58 03.21	75 52 07.92	N 48 29 E	S 48 29 W	2578	Mount Pleasant Church.
			N 41 54 E	S 41 55 W	2434	Emmanuel Church.
			S 81 34 W	N 81 34 E	857	Somers Cove Light.
5	37 58 13.52	75 51 56.98	N 50 17 E	S 50 18 W	2129	Mount Pleasant Church.
			N 42 20 E	S 42 21 W	1980	Emmanuel Church.
			S 67 28 W	N 67 27 E	1235	Somers Cove Light.
6	37 58 21.78	75 51 50.86	N 53 44 E	S 53 44 W	1828	Mount Pleasant Church.
			N 44 38 E	S 44 39 W	1666	Emmanuel Church.
			S 60 02 W	N 60 01 E	1505	Somers Cove Light.
7	37 58 21.84	75 51 42.60	N 49 16 E	S 49 16 W	1655	Mount Pleasant Church.
			N 38 46 E	S 38 46 W	1518	Emmanuel Church.
			S 63 41 W	N 63 41 E	1701	Somers Cove Light.

Thence from corner No. 7 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

JENKINS CREEK.

(*Little Annemessex River—Chart No. 9.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	37 57 06.40	75 51 57.59	N 32 08 W	S 32 09 E	2114	Somers Cove Light.
			N 74 14 W	S 74 16 E	5243	Janes Island Light.
			S 20 40 W	N 20 39 E	5130	Sam.
2	37 57 25.62	75 52 09.39	N 35 20 W	S 35 20 E	1400	Somers Cove Light.
			N 80 41 W	S 80 43 E	4798	Janes Island Light.
			S 15 21 W	N 15 20 E	5650	Sam.
3	37 57 32.80	75 51 58.72	N 31 38 E	S 31 39 W	3211	Mount Pleasant Church.
			N 50 35 W	S 50 35 E	1416	Somers Cove Light.
			N 83 55 W	S 83 57 E	5047	Janes Island Light.
4	37 57 32.69	75 51 53.92	N 29 37 E	S 29 38 W	3148	Mount Pleasant Church.
			N 53 32 W	S 53 33 E	1520	Somers Cove Light.
			N 84 02 W	S 84 04 E	5175	Janes Island Light.

Thence from corner No. 4 along the mean low-water line of the shore to corner No. 5, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

BOUNDARIES OF CRAB BOTTOMS—continued.

JENKINS CREEK—Continued.

Corner of bottom	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
5	37 57 31.64	75 51 47.21	N 26 25 E	S 26 25 W	3095	Mount Pleasant Church.
			N 56 11 W	S 56 12 E	1686	Somers Cove Light.
			N 83 51 W	S 83 53 E	5358	Janes Island Light.
6	37 57 32.58	75 51 31.33	N 19 10 E	S 19 11 W	2902	Mount Pleasant Church.
			N 63 34 W	S 63 35 E	2038	Somers Cove Light.
			N 84 37 W	S 84 39 E	5773	Janes Island Light.
7	37 57 26.20	75 51 30.62	N 17 32 E	S 17 33 W	3100	Mount Pleasant Church.
			N 58 41 W	S 58 42 E	2159	Somers Cove Light.
			N 82 31 W	S 82 34 E	5819	Janes Island Light.

Thence from corner No. 7 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

KINGS ISLAND.

(Little Annemessex River—Chart No. 9.)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	37 57 33.14	75 53 38.58	N 77 30 W	S 77 31 E	2410	Janes Island Light.
			S 8 51 E	N 8 50 W	5771	Sam.
			N 60 32 E	S 60 32 W	1806	Somers Cove Light.
2	37 57 37.36	75 53 30.06	N 81 38 W	S 81 39 E	2608	Janes Island Light.
			S 6 27 E	N 6 26 W	5881	Sam.
			N 60 58 E	S 60 59 W	1538	Somers Cove Light.
3	37 57 43.07	75 53 27.44	N 85 58 W	S 85 59 E	2657	Janes Island Light.
			S 5 35 E	N 5 35 W	6065	Sam.
			N 66 31 E	S 66 31 W	1389	Somers Cove Light.
4	37 57 42.74	75 53 19.82	N 86 02 W	S 86 03 E	2861	Janes Island Light.
			S 3 40 E	N 3 40 W	6038	Sam.
			N 62 12 E	S 62 13 W	1211	Somers Cove Light.
5	37 57 32.64	75 53 18.58	N 79 26 W	S 79 27 E	2937	Janes Island Light.
			S 3 33 E	N 3 33 W	5695	Sam.
			N 48 54 E	S 48 55 W	1377	Somers Cove Light.
6	37 57 32.00	75 53 12.34	N 43 14 E	S 43 15 W	1272	Somers Cove Light.
			S 1 53 E	N 1 54 W	5666	Sam.
			N 79 36 W	S 79 37 E	3105	Janes Island Light.
7	37 57 46.22	75 53 02.98	N 88 35 W	S 88 37 E	3305	Janes Island Light.
			S 0 36 W	N 0 36 E	6143	Sam.
			N 54 53 E	S 54 53 W	759	Somers Cove Light.
8	37 57 44.46	75 52 35.80	N 11 39 W	S 11 39 E	517	Somers Cove Light.
			N 88 00 W	S 88 01 E	4032	Janes Island Light.
			S 7 24 W	N 7 23 E	6134	Sam.
9	37 57 47.00	75 52 22.56	N 47 25 W	S 47 25 E	622	Somers Cove Light.
			N 89 26 W	S 89 27 E	4383	Janes Island Light.
			S 10 30 W	N 10 30 E	6274	Sam.

BOUNDARIES OF CRAB BOTTOMS—continued.

KINGS ISLAND—Continued.

Corner of bottom	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
10	37 57 25.62	75 52 09.39	N 35 20 W	S 35 20 E	1400	Somers Cove Light.
			N 80 41 W	S 80 43 E	4798	Janes Island Light.
			S 15 21 W	N 15 20 E	5650	Sam.
11	37 57 06.40	75 51 57.59	N 32 08 W	S 32 09 E	2114	Somers Cove Light.
			N 74 14 W	S 74 16 E	5243	Janes Island Light.
			S 20 40 W	N 20 39 E	5130	Sam.

Thence from corner No. 11 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

GREAT POINT.

(*Entrance Little Annemessex River—Chart No. 9.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	37 56 58.46	75 53 32.95	S 9 14 E	N 9 14 W	4592	Sam.
			N 34 38 E	S 34 39 W	2494	Somers Cove Light.
			N 55 58 W	S 55 58 E	3022	Janes Island Light.
2	37 56 58.91	75 53 46.39	S 13 33 E	N 13 33 W	4677	Sam.
			N 41 05 E	S 41 05 W	2709	Somers Cove Light.
			N 52 00 W	S 52 00 E	2722	Janes Island Light.
3	37 57 48.22	75 53 58.10	N 89 35 W	S 89 35 E	1832	Janes Island Light.
			S 12 47 E	N 12 46 W	6367	Sam.
			N 79 42 E	S 79 43 W	2127	Somers Cove Light.
4	37 57 37.36	75 53 30.06	N 81 38 W	S 81 39 E	2608	Janes Island Light.
			S 6 27 E	N 6 26 W	5881	Sam.
			N 60 58 E	S 60 59 W	1538	Somers Cove Light.
5	37 57 33.14	75 53 38.58	N 77 30 W	S 77 31 E	2410	Janes Island Light.
			S 8 51 E	N 8 50 W	5771	Sam.
			N 60 32 E	S 60 32 W	1806	Somers Cove Light.

Thence from corner No. 5 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

FISHING CREEK.

(*Southeast Tangier Sound—Chart No. 9.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	37 55 43.30	75 53 53.32	S 32 40 E	N 32 39 W	2373	Sam.
			N 23 10 E	S 23 11 W	4994	Somers Cove Light.
			N 24 53 W	S 24 54 E	4658	Janes Island Light.
2	37 56 05.77	75 53 49.43	S 23 08 E	N 23 07 W	2996	Sam.
			N 25 53 E	S 25 54 W	4262	Somers Cove Light.
			N 30 45 W	S 30 46 E	4035	Janes Island Light.

Thence from corner No. 2 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

BOUNDARIES OF CRAB BOTTOMS—continued.

CEDAR STRAITS.

(*Cedar Straits—Chart No. 9.*)

Corner of bottom	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	37 54 43.46	75 52 59.66	N 82 48 W	S 82 48 E	153	Sam.
			S 48 12 W	N 48 11 E	2986	Fox Island Poplar.
			N 66 41 E	S 66 43 W	5092	East.
2	37 54 40.64	75 52 59.74	N 65 43 E	S 65 45 W	5131	East.
			N 52 43 W	S 52 43 E	188	Sam.
			S 49 37 W	N 49 33 E	2921	Fox Island Poplar.
3	37 54 36.20	75 54 15.22	S 6 45 W	N 6 45 E	1757	Fox Island Poplar.
			N 81 56 E	S 81 57 W	1883	Sam
			N 20 24 E	S 20 25 W	7313	Somers Cove Light.

Thence from corner No. 3 along the mean low-water line of the shore to corner No. 4, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

4	37 54 41.87	75 54 17.75	S 4 06 W	N 4 06 E	1941	Fox Island Poplar.
			N 87 50 E	S 87 51 W	1933	Sam.
			N 11 44 W	S 11 44 E	6430	Janes Island Light.
5	37 55 19.06	75 53 58.24	S 11 42 W	N 11 41 E	3258	Fox Island Poplar.
			S 50 05 E	N 50 04 W	1841	Sam.
			N 21 11 E	S 21 12 W	5802	Somers Cove Light.
6	37 55 33.42	75 53 57.33	S 10 33 W	N 10 33 E	3738	Fox Island Poplar.
			S 39 48 E	N 39 47 W	2168	Sam.
			N 22 49 E	S 22 50 W	5343	Somers Cove Light.

Thence from corner No. 6 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

BROAD CREEK.

(*Western Pocomoke Sound—Chart No. 9.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	37 55 43.19	75 50 04.56	N 47 28 E	S 47 29 W	3842	Monkey.
			N 18 57 W	S 18 58 E	1894	Watermelon Hummock.
	′		S 59 51 W	N 59 48 E	7983	Fox Island Poplar.
2	37 54 43.02	75 49 20.87	N 19 48 E	S 19 48 W	4916	Monkey.
			N 29 54 W	S 29 55 E	2340	East.
			N 89 40 W	S 89 43 E	5997	Sam.
3	37 54 42.50	75 50 04.82	N 31 26 E	S 31 27 W	5442	Monkey.
			N 0 12 E	S 0 12 W	2046	East.
			N 89 22 W	S 89 24 E	4823	Sam.
4	37 55 04.64	75 50 32.13	N 29 32 E	S 29 32 W	1494	East.
			N 2 15 E	S 2 15 W	3093	Watermelon Hummock.
			S 80 23 W	N 80 21 E	4151	Sam.
5	37 55 04.58	75 51 06.16	N 51 39 E	S 51 39 W	2098	East.
			N 18 25 E	S 18 26 W	3259	Watermelon Hummock.
			S 77 42 W	N 77 41 E	3259	Sam.

BOUNDARIES OF CRAB BOTTOMS—continued.

BROAD CREEK—Continued.

Corner of bottom	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
6	37 54 41.93	75 50 58.48	N 34 53 E	S 34 54 W	2517	East.
			N 12 04 E	S 12 05 W	3944	Watermelon Hummock.
			N 88 48 W	S 88 49 E	3390	Sam.
7	37 54 40.64	75 52 59.74	N 65 43 E	S 65 45 W	5131	East.
			N 52 43 W	S 52 43 E	188	Sam.
			S 49 37 W	N 49 33 E	2921	Fox Island Poplar.
8	37 54 43.46	75 52 59.66	N 82 48 W	S 82 48 E	153	Sam.
			S 48 12 W	N 48 11 E	2986	Fox Island Poplar.
			N 66 41 E	S 66 43 W	5092	East.

Thence from corner No. 8 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

WARE POINT.

(*Northern Pocomoke Sound—Chart No. 9.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	37 57 02.04	75 49 28.14	S 61 20 W	N 61 20 E	1810	Watermelon Hummock.
			S 20 06 W	N 20 05 E	2830	East.
			S 88 07 W	N 88 06 E	1860	Monkey.
2	37 57 00.82	75 48 42.30	S 73 37 W	N 73 36 E	2931	Watermelon Hummock.
			S 40 01 W	N 40 00 E	3418	East.
			S 88 09 E	N 88 08 W	635	Monkey.
3	37 56 47.45	75 48 49.97	N 62 52 E	S 62 53 W	944	Monkey.
			S 81 48 W	N 81 47 E	2633	Watermelon Hummock.
			S 42 36 W	N 42 35 E	2943	East.
4	37 55 25.60	75 48 51.05	N 15 14 E	S 15 14 W	3306	Monkey.
			N 47 15 W	S 47 16 E	3512	Watermelon Hummock.
			N 73 11 W	S 73 12 E	2050	East.
5	37 54 43.02	75 49 20.87	N 19 48 E	S 19 48 W	4916	Monkey.
			N 29 54 W	S 29 55 E	2340	East.
			N 89 40 W	S 89 43 E	5997	Sam.
6	37 55 43.19	75 50 04.56	N 47 28 E	S 47 29 W	3842	Monkey.
			N 18 57 W	S 18 58 E	1894	Watermelon Hummock.
			S 59 51 W	N 59 48 E	7983	Fox Island Poplar.

Thence from corner No. 6 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

BOUNDARIES OF CRAB BOTTOMS—continued.

APES HOLE.

(*Northern Pocomoke Sound—Chart No. 9.*)

Corner of bottom	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	37 57 14.29	75 48 12.92	S 70 24 W	N 70 22 E	3818	Watermelon Hummock.
			S 44 09 W	N 44 08 E	4280	East.
			S 17 29 W	N 17 29 E	498	Monkey.
2	37 56 41.98	75 48 17.81	N 72 12 E	S 72 15 W	6816	Scot.
			N 1 46 W	S 1 46 E	614	Monkey.
			S 55 12 W	N 55 11 E	3472	East.
3	37 56 50.20	75 48 38.72	S 80 50 W	N 80 49 E	2945	Watermelon Hummock.
			S 45 25 W	N 45 24 E	3218	East.
			S 70 55 E	N 70 52 W	8892	Saxis Church.
4	37 57 02.80	75 48 31.38	S 73 57 W	N 73 56 E	3229	Watermelon Hummock.
			S 42 50 W	N 42 49 E	3660	East.
			S 75 31 E	N 75 31 W	354	Monkey.
5	37 57 22.88	75 48 49.88	S 58 58 W	N 58 57 E	3046	Watermelon Hummock.
			S 30 41 W	N 30 40 E	3909	East.
			S 47 47 E	N 47 46 W	1134	Monkey.
6	37 57 26.04	75 48 43.29	S 58 58 W	N 58 57 E	3252	Watermelon Hummock.
			S 32 03 W	N 32 02 E	4091	East.
			S 37 13 E	N 37 13 W	1094	Monkey.

Thence from corner No. 6 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

BOUNDARIES OF CLAM BEDS.

EXPLANATION OF DESCRIPTIONS OF BOUNDARIES.

The Maryland legislature of 1908 in an act[a] passed to prescribe additional duties to be performed by the Board of Shell Fish Commissioners provided for the establishment of boundaries of certain clam beds in Pocomoke Sound, which were to be "surveyed and designated on charts" and records prepared and filed in every particular as provided for by the Maryland laws for the survey of natural oyster bars.

The clam beds specified by the law are only 3 in number, with total acreage of 506 acres, the largest bed being 180 acres and the smallest 152 acres.

The boundaries of these clam beds were surveyed and established by the Shell Fish Commission and delineated on the "Charts of Oyster Bars" published by the Coast and Geodetic Survey in a manner identical with that used for the establishment of the oyster bar boundaries. Therefore the "Explanation of descriptions of boundaries," under the heading of "Boundaries of oyster bars," to be found in another part of this publication, will apply to the clam beds.

[a] For the text of this act see Appendix B of this publication.

SURVEYING METHODS OF RELOCATION OF BOUNDARIES.

For similar reasons to those given under the previous heading, the "Surveying methods of relocation of boundaries," given under the heading of "Boundaries of oyster bars," to be found in another part of this publication, will apply to clam beds.

BOUNDARIES OF CLAM BEDS.

WARE ROCK.

(*Pocomoke Sound—Chart No. 9.*)

Corner of bed	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	37 55 13.00	75 48 09.78	N 3 42 W	S 3 42 E	3622	Monkey.
			N 71 37 W	S 71 38 E	3230	East.
			S 73 21 W	N 73 18 E	10407	Fox Island Poplar.
2	37 55 14.60	75 48 46.62	N 11 54 E	S 11 54 W	3640	Monkey.
			N 65 09 W	S 65 09 E	2294	East.
			S 71 20 W	N 71 17 E	9486	Fox Island Poplar.
3	37 55 41.57	75 48 32.21	S 85 52 E	N 85 49 W	8251	Saxis Church.
			N 7 51 E	S 7 51 W	2676	Monkey.
			N 88 43 W	S 88 44 E	2467	East.
4	37 55 45.79	75 48 13.64	N 2 58 W	S 2 58 E	2517	Monkey.
			S 88 19 W	N 88 18 E	2964	East.
			S 67 30 W	N 67 30 W	10680	Fox Island Poplar.

GRAVEL ROCK.

(*Pocomoke Sound—Chart No. 9.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	37 55 11.66	75 47 39.42	N 15 55 W	S 15 57 E	3808	Monkey.
			N 74 39 W	S 74 41 E	4020	East.
			S 74 47 W	N 74 42 E	11174	Fox Island Poplar.
2	37 55 13.00	75 48 09.78	N 3 42 W	S 3 42 E	3622	Monkey.
			N 71 37 W	S 71 38 E	3230	East.
			S 73 21 W	N 73 18 E	10407	Fox Island Poplar.
3	37 55 45.79	75 48 13.64	N 2 58 W	S 2 58 E	2517	Monkey.
			S 88 19 W	N 88 18 E	2964	East.
			S 67 30 W	N 67 27 E	10680	Fox Island Poplar.
4	37 55 50.76	75 47 52.93	S 82 49 E	N 82 46 W	7237	Saxis Church.
			N 16 16 W	S 16 16 E	2439	Monkey.
			S 85 52 W	N 85 53 E	3525	East.

BOUNDARIES OF CLAM BEDS—continued.

FLAT ROCK.

(*Pocomoke Sound—Charts Nos. 9 and 10.*)

Corner of bed	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	37 55 34.84	75 46 56.00	N 37 26 W	S 37 27 E	3624	Monkey.
			N 86 47 W	S 86 49 E	5044	East.
			S 72 43 W	N 72 38 E	12505	Fox Island Poplar.
2	37 55 39.26	75 47 40.94	N 20 11 W	S 20 12 E	2908	Monkey.
			N 88 01 W	S 88 02 E	3837	East.
			S 70 13 W	N 70 08 E	11416	Fox Island Poplar.
3	37 56 08.82	75 47 03.84	N 49 00 W	S 49 00 E	2642	Monkey.
			S 79 52 W	N 79 50 E	4904	East.
			S 67 30 W	N 67 25 E	12700	Fox Island Poplar.
4	37 55 43.18	75 46 44.80	N 43 56 W	S 43 57 E	3607	Monkey.
			N 89 59 W	S 89 59 E	5336	East.
			S 71 56 W	N 71 51 E	12877	Fox Island Poplar.

APPENDIXES.

Appendix A.—LAWS RELATING TO THE COOPERATION OF THE COAST AND GEODETIC SURVEY AND BUREAU OF FISHERIES WITH THE MARYLAND SHELL FISH COMMISSION.

The work of the Coast and Geodetic Survey and of the Bureau of Fisheries, in cooperation with the Maryland Shell Fish Commission, in surveying the oyster bars, establishing permanent landmarks at triangulation stations, and preparing for publication the necessary charts and technical and legal descriptions of boundaries and landmarks shown on these charts, has been executed in compliance with a request from the governor of the State of Maryland to the Secretary of Commerce and Labor, and by the authority of the following laws of the United States and Maryland:

[Act of Congress approved May 26, 1906.]

AN ACT To authorize the Secretary of Commerce and Labor to cooperate, through the Bureau of the Coast and Geodetic Survey and the Bureau of Fisheries, with the shellfish commissioners of the State of Maryland in making surveys of the natural oyster beds, bars, and rocks in the waters within the State of Maryland.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of Commerce and Labor be, and he is hereby, authorized and directed, upon the request of the governor of the State of Maryland, to designate such officers, experts, and employees of the Bureau of the Coast and Geodetic Survey and of the Bureau of Fisheries as may be necessary to cooperate with the Maryland State board of shellfish commissioners in making a survey of and locating the natural oyster beds, bars, and rocks in the waters within the State of Maryland; and the Secretary of Commerce and Labor is hereby authorized and directed to furnish to the officers, experts, and employees of said Bureaus so detailed as aforesaid such instruments, appliances, and steam launches as may be necessary to make the survey aforesaid; and the Secretary of Commerce and Labor is hereby authorized to have made in the Bureau of the Coast and Geodetic Survey all the plats necessary to show the results of the aforesaid survey and the locations of the said natural oyster beds, bars, and rocks in the waters within the State of Maryland, and to furnish to the board of shellfish commissioners of the State of Maryland such copies as may be necessary, and for this purpose to employ, in the District of Columbia and elsewhere, such technically qualified persons as may be necessary to carry out the purpose of this act.

Sec. 2. That the Secretary of Commerce and Labor is hereby further authorized to have erected or constructed by the officers so detailed as aforesaid, while making such survey, such structures as may be necessary to mark the points of triangulation, so that the same may be used for such future work of the Coast and Geodetic Survey as the said Bureau may be hereafter required to perform in prosecuting the Government coast survey of the navigable waters of the United States located within the State of Maryland.

* * * * * * *

Sec. 4. That this act shall take effect from the date of its passage.

[Act of Congress approved June 30, 1906.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth nineteen hundred and seven, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and seven, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including the expenditures authorized under Public Act Numbered One hundred and eighty-one, approved May twenty-sixth, nineteen hundred and six, and contingent expenses incident thereto, five thousand dollars, together with the unexpended balance under this appropriation for nineteen hundred and six and prior years which is hereby reappropriated and made available on this account for the fiscal year nineteen hundred and seven. * * *

[Act of Congress approved March 4, 1907.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and eight, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and eight, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, to be immediately available and to continue available until expended, twenty-five thousand dollars. * * *

[Act of Congress approved May 27, 1908.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and nine, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and nine, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, which expenses, including cost of plats and charts, shall not exceed fifteen thousand dollars in any one year, to be immediately available, twenty thousand dollars.

[Act of the legislature of Maryland approved April 2, 1906.]

AN ACT to establish and promote the industry of oyster culture in Maryland, to define and mark natural oyster beds, bars and rocks lying under the waters of this State, to prescribe penalties for the infringement of the provisions of this Act, and * * *

SECTION 1. *Be it enacted by the General Assembly of Maryland*, That the following sections be, and they are hereby, added to Article 72 of the Code of Public General Laws, title "Oysters." * * *

SEC. 86. The Board of Shell Fish Commissioners shall, as soon as practicable after the passage of this Act, cause to be made a true and accurate survey of the natural oyster beds, bars and rocks of this State, said survey to be made with reference to fixed and permanent objects on the shore, giving courses and distances, to be fully described and set out in a written report of said survey, as hereinafter required. A true and accurate delineation of the same shall be made on copies of published maps and charts of the United States coast and geodetic survey, which said copies shall be filed in the office of the said commissioners in the city of Annapolis; and the said commissioners shall further cause to be delineated upon copies of the published maps and charts of the United States coast and geodetic survey, of the largest scale, one copy for each of the counties of this State in the waters of which there are natural oyster beds, bars and rocks, all natural beds, bars and rocks lying within the waters of such county, which maps shall be filed in the offices of the clerks of the Circuit Court for the respective counties wherein the grounds so designated may lie.

* * * * * * *

SEC. 87. The Governor of this State is hereby requested to ask the assistance of the United States coast and geodetic survey, and of the United States Fish Commissioner, to aid in the carrying out of the provisions of the preceding section. * * *

SEC. 89. As soon as practicable after the first day of April, 1906, the said commissioners shall organize, and shall at once proceed, with the assistance of such person or persons as may be detailed by the United States coast and geodetic survey, and the United States Fish Commissioner, to aid them in their work, and of such persons as may be appointed under the preceding section, to have laid out, surveyed and designated on the said charts, the natural beds and bars, and shall cause to be marked and defined as accurately as practicable, the limits and boundaries of the natural beds, bars and rocks, as established by said survey, and they shall take true and accurate notes of said survey in writing, and make an accurate report of said survey, setting forth such a description of landmarks as may be necessary to enable the said board, or their successors, to find and ascertain the boundary lines of the said natural oyster beds, bars and rocks, as shown by a delineation on the maps and charts provided in this Act; said report shall be completed and filed in the office of the board in the city of Annapolis within ninety days after the completion of the survey of any county. Said commissioners shall cause the same to be published in pamphlet form, and transmit copies of the same to the clerks of the Circuit Court for the respective counties, where the charts have been filed or directed to be filed as hereinafter provided; the said report to be filed by the clerks of the several counties in a book kept for that purpose. And the said survey and report, when filed, subject to the right of appeal hereafter provided for in this Act, shall be taken in all of the courts of this State as conclusive evidence of the boundaries and limits of all natural oyster beds, bars and rocks, lying within the waters of the county wherein such survey and report are filed, and shall be construed to mean in all of the said courts that there are no natural oyster beds, bars or rocks lying within the waters of the counties wherein such report and survey are filed, other than those embraced in the survey authorized by this Act, and that all areas of the Chesapeake Bay and its tributaries within the State of Maryland, not shown in the survey to be natural oyster beds, bars or rocks, shall be construed in all the courts of the State to be barren bottoms, and open for disposal by the State for the purpose of private planting or propagation of oysters thereon under the provisions of this Act; provided, that the said survey and report shall not be so construed as to affect in any manner the holdings by citizens of this State in any lot which may have been appropriated or taken up under the laws of this State prior to the approval of this Act. * * *

The law of the State of Maryland, passed March 9, 1842, authorizing officers of the United States Coast and Geodetic Survey to enter upon the lands within the State limits for the purposes of the Survey, is as follows:

An Act Concerning the Survey of the Coast of Maryland.

SECTION 1. *Be it enacted by the General Assembly of Maryland*, That it shall and may be lawful for any person or persons employed under and by virtue of an act of the Congress of the United States, * * * at any time hereafter to enter upon lands within this State for the purpose of exploring, surveying, triangulating, or levelling, or doing any other matter or thing which may be necessary to effect the objects of said act, and to erect any works, stations, buildings, or appendages requisite for that purpose, doing no unnecessary injury to private or other property.

SEC. 2.[a] *And be it enacted*, That in case the person or persons employed under the act of Congress aforesaid, can not agree with the owners or possessors of the land so entered upon and used as to the amount of damage done thereto by reason of the removal of fences, cutting of trees or injury to the crop or crops growing on the same, it shall and may be lawful for the said parties or either of them to apply to the chief justice for the time being or one of the associate judges of the judicial district in which such land may be situated, who shall thereupon appoint three disinterested and judicious freeholders, residents of the same judicial district, to proceed with as much despatch as possible to the examination of the matter in question, and the faithful assessment of the damages sustained by the owners or possessors aforesaid, and the said freeholders or a majority of them, having first taken and subscribed an oath or affirmation before the chief or associate justice aforesaid or other person duly authorized to administer the same, that they will well and truly examine and assess as aforesaid, and having given five days' notice to both parties of the time of their meeting, shall proceed to the spot, and then and there upon their own view and if required, upon the evidence of witnesses, (to be by

[a] Under the rulings of the Comptroller of the Treasury no damages can be collected except through the United States Court of Claims unless an agreement has been made in advance.

them sworn or affirmed and examined) shall assess the said damages, and shall afterward make report thereof and of their proceedings in writing under their hands and seals and file the same within five days thereafter in the office of the clerk of the county in which the land aforesaid is situated, subject to an appeal by either party to the county court of the said county within ten days after filing as aforesaid, and the said report so made as aforesaid, if no appeal as aforesaid be taken, shall be held to be final and conclusive as between the said parties, and the amount so assessed and reported shall be paid to the said owners or possessors of the land so damaged within twenty days after the filing of said report, and the said chief or associate justice as aforesaid, shall have authority to tax and allow upon the filing of said report, such costs, fees and expenses to the said freeholders for the performance of their duty as he shall think equitable and just, which allowance shall be paid by the person or persons employed under the act of congress aforesaid, within the time last above limited, but if an appeal as aforesaid be taken, the case shall be set down for hearing at the first term of county court aforesaid, ensuing upon and after appeal, and it shall be lawful for either party immediately after the entry of such appeal, to take out summons for such witnesses as may be necessary to be examined upon the hearing aforesaid, and the said court shall have power in its discretion to award costs against which ever the final judgment shall be entered, and such appeal at the option of either party may and shall be heard before and the damages assessed by a jury of twelve men to be taken from the regular panel and elected as in other cases.

SEC. 3. *And be it enacted*, That if any person or persons shall wilfully injure or deface or remove any signal, monument or building or any appendage thereto, erected, used or constructed under and by virtue of the act of congress aforesaid, such person or persons so offending shall severally forfeit and pay the sum of fifty dollars with costs of suit to be sued for and recovered by any person who shall first prosecute the same before any justice of the peace of the county where the person so offending may reside, and shall also be liable to pay the amount of damages thereby sustained, to be recovered with costs of suit in an action on the case, in the name and for the use of the United States of America, in any court of competent jurisdiction.

APPENDIX B.—LAWS RELATING TO SURVEY OF CLAM BEDS.

[Act of the legislature of Maryland approved April 6, 1908.[a]]

AN ACT to prescribe additional duties to be performed by the Board of Shell Fish Commissioners, to the duties already prescribed for them by Chapter 711 of the Acts of the General Assembly of Maryland of 1906.

SECTION 1. Be it enacted by the General Assembly of Maryland, That it shall be the duty of the Board of Shell Fish Commissioners, as soon after the passage of this Act as practicable, to have laid out, surveyed and designated on charts provided for such purpose, Gravel Rock, Ware Rock, and Flat Rock, being clam banks located in the waters of Pocomoke Sound, in Somerset county, and State of Maryland, and shall cause to be marked and defined as accurately as practicable the limits and boundaries of each of the above named rocks, and they shall take true and accurate notes of said survey and make the report and perform all other duties connected with said survey as said duties are prescribed by Chapter 711 of the Acts of the General Assembly of Maryland of 1906, pertaining to natural oyster beds and bars.

SEC. 2. And be it enacted by the General Assembly of Maryland, That after said rocks shall have been surveyed as provided in Section 1 of this Act, no part of them shall be leased to any person or persons for the purpose of planting, bedding or cultivating oysters, thereon, but they shall be reserved to the public in the State of Maryland for the sole purpose of taking clams therefrom, and shall be treated in every particular as are the natural oyster beds or bars which have been or shall be surveyed by the Board of Shell Fish Commissioners under Chapter 711 of the Acts of the General Assembly of Maryland of 1906.

SEC. 3. And be it further enacted, That this Act shall take effect from the date of its passage.

[a] As published in bill form.

Appendix C.—STATISTICS OF RESULTS OF THE COMBINED OPERATIONS OF THE GOVERNMENT AND STATE.

For a further understanding of the character of the oyster survey work that is being carried on in Maryland the following statistical tabulations of the combined results of the various operations of both the Government and State will be of value. In this connection it should be remembered that these statistics only include the new work required to supplement the large amount of existing data obtained from the archives of Coast and Geodetic Survey and utilized in the preparation of the charts and technical records.

Operation.	Anne Arundel County.	Somerset County.	Total. [a]
Natural oyster bars surveyed and delineated	91	37	128
Acres of natural oyster bars	33,666	27,566	[b] 61,232
Crab bottoms surveyed and delineated		54	54
Acres of crab bottoms		32,108	32,108
Clam beds surveyed and delineated		3	3
Acres of clam beds		506	506
Number of oyster lots leased and surveyed	38	185	223
Acres of oyster lots leased and surveyed	203	920	1,123
Boundary buoys located and planted	362	154	516
Triangulation landmarks established	123	86	209
Miles of shore line covered by triangulation	110	125	235
Square miles of water covered by triangulation	220	375	595
Miles of examination of shell bottom with chain apparatus	369	296	665
Oyster investigation stations occupied	440	679	1,119
Number of soundings over shell bottoms	37,049	17,904	54,953
Square miles covered by soundings and chain apparatus	58	47	105
Projections prepared and plotted	9	13	22
Leasing charts prepared	13	12	25
Oyster charts published	4	6	10
Reports published	2	2	3
Progress maps published	2	2	3

[a] Less quantities covered by statistics of more than one county.
[b] Total area of natural oyster bars of Connecticut is 5,770 acres.

Appendix D.—THE HAMAN OYSTER CULTURE LAW.

[Extract from First Report of Shell Fish Commission.]

OBJECT.

"The legislature in placing chapter 711 of the acts of 1906, better known as the Haman Oyster Culture Law, upon the statute books of Maryland had a twofold object in view:

1. To *encourage* an industry in oyster culture upon the *barren bottoms* beneath the tidewaters of the State.

2. To *prevent* the leasing of *natural oyster bars* for the purpose of oyster culture."

SURVEY.

"To make the leasing of barren bottoms possible and the leasing of natural bars impossible, provision was made for a survey of the natural bars for the purpose of accurately locating and marking the same. It was definitely provided that no barren bottoms should be leased in any part of the State until the natural bars of that region had been surveyed, charted, and marked with buoys."

NATURAL BAR NOT DEFINED.

"The Shell Fish Commission is instructed by section 90 of the Haman Oyster Culture Law to exercise its judgment liberally in favor of the natural bars when surveying, charting and buoying them, but other than this the Commission is uninstructed in this important matter. The responsibility of defining a natural bar is placed upon the Commission."

DEFINITION OF A NATURAL OYSTER BAR.

DIVERSITY OF OPINION.

"No definition of a natural oyster bar could be formulated by any man or body of men which would meet with the approval of all parties concerned. Oystermen, as a rule, hold that all bottoms where oysters grow or have grown naturally even though now practically barren of oysters should be considered natural bars. Other citizens of the State who are not directly interested in the oyster business, but interested in the oyster industry from the standpoint of revenue, hold, as a rule, that no bottoms should be excluded from leasing for oyster culture which, by methods known to oyster culturalists, may be made to yield a greater number of oysters than they now produce."

"It should be evident to every one that neither of these definitions could be adopted by the Commission as a working basis for determining which of the grounds surveyed are natural oyster bars."

THE GOLDSBOROUGH DEFINITION.

"The definition of a natural bar which very nearly approaches a reasonable and satisfactory compromise between the extreme views given above and which has therefore been adopted by the Commission, is that contained in an opinion rendered by Judge Charles F. Goldsborough in the circuit court for Dorchester County in the July term, 1881, in the case of William T. Windsor and George R. Tood, *v.* Job T. Moore. It is as follows:

What then is a natural bar or bed of oysters? It would be a palpable absurdity for the State to attempt to promote the propagation and growth of oysters and to encourage its citizens, by a grant of land, to engage in their culture, if the lands authorized to be taken up were only those upon which oysters do not and can not be made to grow. That there may be lands covered by water in the State where no oysters can be found, but where, if planted, they could be cultivated successfully, may be possible, but, if so, I imagine that their extent must be too limited for them to be of much practical, general advantage for the purposes of such a law as the one under discussion; but there are thousands of acres of hard and shifting sands where oysters not only are not found, but where it would be folly to plant them; and these latter it can not be supposed that the State intended to offer to give away, for the simple reason that the State could not help knowing that nobody would have them.

Upon the other hand there are large and numerous tracts where oysters of natural growth may be found in moderate numbers, but not in quantities sufficient to make it profitable to catch them, and yet where oysters may be successfully planted and propagated. In my opinion these can not be called natural bars or beds of oysters, within the meaning of the Act of Assembly, and it is just such lands as these that the State meant to allow to be taken up under the provisions of the above-mentioned section of the Act.

But there is still another class of lands where oysters grow naturally and in large quantities and to which the public are now and have been for many years in the habit of resorting with a view to earning a livelihood by catching this natural growth, and here, I think, is the true test of the whole question. Land can not be said to be a natural oyster bar or bed merely because oysters are scattered here and there upon it, and because if planted they will readily live and thrive there; but whenever the natural growth is so thick and abundant that the public resort to it for a livelihood, it is a natural oyster bar or bed and comes within the above-quoted restriction in the law, and cannot be located or appropriated by any individual."

O

Fold-out Placeholder

This fold-out is being digitized, and will be inserted at future date.

DEPARTMENT OF COMMERCE AND LABOR
COAST AND GEODETIC SURVEY
O. H. TITTMANN, Superintendent

SURVEY OF OYSTER BARS

TALBOT COUNTY
MARYLAND

DESCRIPTION OF BOUNDARIES AND LANDMARKS AND REPORT OF WORK OF UNITED STATES COAST AND GEODETIC SURVEY IN COOPERATION WITH UNITED STATES BUREAU OF FISHERIES AND MARYLAND SHELL FISH COMMISSION

By C. C. YATES
CHIEF OF COAST AND GEODETIC SURVEY PARTY
ASSISTANT, COAST AND GEODETIC SURVEY

WASHINGTON
GOVERNMENT PRINTING OFFICE
1912

LETTER OF SUBMITTAL.

DEPARTMENT OF COMMERCE AND LABOR,
COAST AND GEODETIC SURVEY,
Washington, July 20, 1912.

SIR: I have the honor to transmit herewith a report of the officer detailed from the Coast and Geodetic Survey to cooperate with the Bureau of Fisheries and the Maryland Shell Fish Commission in surveying the oyster bars of the State of Maryland, together with certain technical results which are necessary for the interpretation and use of the plats of the survey made by the Government.

This work has been done under the provisions of the act of Congress entitled "An act to authorize the Secretary of Commerce and Labor to cooperate, through the Bureau of the Coast and Geodetic Survey and the Bureau of Fisheries, with the Shell Fish Commissioners of the State of Maryland in making surveys of the natural oyster beds, bars, and rocks in the waters within the State of Maryland," approved May 26, 1906, and of the acts of Congress making appropriations for sundry civil expenses of the Government for the fiscal years ending June 30, 1907, 1908, 1909, 1910, 1911, and 1912.

Respectfully,

O. H. TITTMANN, *Superintendent.*

To Hon. CHARLES NAGEL,
Secretary of Commerce and Labor.

CERTIFICATION.

BALTIMORE, MD., *May 4, 1912.*

The following publication is certified to contain correct technical descriptions of all boundaries and landmarks established in Talbot County by the Maryland Shell Fish Commission in cooperation with the United States Coast and Geodetic Survey.

C. C. YATES,
Chief of Coast and Geodetic Survey Party,
Assistant, Coast and Geodetic Survey.

BALTIMORE, MD., *May 4, 1912.*

Examined and certified to be correct.

WALTER J. MITCHELL,
CASWELL GRAVE,
BENJAMIN K. GREEN,
Maryland Shell Fish Commission.

SWEPSON EARLE,
Hydrographic Engineer.

NOTE.—Certified copies of this publication and of the charts of the natural oyster bars of Talbot County were filed in the office of the clerk of the circuit court of Talbot County and in the office of the Board of Shell Fish Commissioners on July 20, 1912.

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SURVEY OF OYSTER BARS, TALBOT COUNTY, MD.

INTRODUCTION.

PUBLICATIONS.

The preparation of publications relating to the survey of the oyster bars of Maryland has been divided between the Government and the State in accordance with the laws [1] authorizing the work and the natural division of the surveying operations [2] of the cooperating forces.

The publications prepared and issued by the Government under the direction of the Superintendent of the Coast and Geodetic Survey consist of a series of charts and a technical report for each county surveyed.[3] The charts show all legal boundaries of oyster bars within the adopted boundaries of the waters opened up for leasing with each county, and the location of all landmarks (Coast and Geodetic Survey triangulation stations) used as a foundation for the delineation of these various boundaries. The technical report gives technical and legal descriptions of all oyster bar and other boundaries, and descriptions of all landmarks shown on the charts, and includes the report of the representative of the Coast and Geodetic Survey in charge of the work of that service in cooperation with the Bureau of Fisheries and the Maryland Shell Fish Commission. These charts and technical reports are prepared and certified for file with the courts and the Commission, as required by the laws of the State, and contain all information necessary to make a permanent record of the work of the Commission and the Government for all future requirements of the courts, or for any resurveys that may become necessary.[4]

The publications prepared and issued by the State under the direction of the Shell Fish Commission consist of annual reports [5] of all the operations of the Commission performed under the provisions of the laws of Maryland,[6] including results of biological

[1] See Appendix A for laws relating to the cooperation of the Coast and Geodetic Survey and Bureau of Fisheries with the Maryland Shell Fish Commission.

[2] See Appendix C for a summary of the particular surveying operations which constitute an "oyster survey" as now being carried on in Maryland.

[3] These charts and technical reports can be obtained by application to the Superintendent of the Coast and Geodetic Survey at Washington, D. C. The publications now ready for issue are those for Anne Arundel, Somerset, Wicomico, Worcester, Calvert, Charles, St. Marys, Baltimore, Kent, Queen Annes, and Talbot Counties.

[4] The technical records and charts for each county are published separately on account of the requirements of the oyster-culture laws of the State and the practical considerations which make it desirable to have each county "opened up" for oyster culture as soon as practicable after the completion of its survey. For these reasons and the fact that these reports are each arranged for distribution and use in one county only without reference to other published records, much of the text of this publication is of necessity identical with similar previous publications for other counties.

[5] These reports can be obtained by application to the Shell Fish Commission, Marine Bank Building, Baltimore, Md. They are issued annually in October, and the first, second, third, and fourth reports are now available for distribution.

[6] See Appendix B for an extract from the "Second Report of the Maryland Shell Fish Commission," giving a concise summary of the "Haman oyster-culture law."

and economic oyster investigations, methods and results of the hydrographic survey of the boundaries of oyster bars and crab bottoms, the administrative report and financial statement of the Commission, information relating to oyster culture, methods of surveying and leasing of oyster lots, and much other important matter of legal and scientific value.

These two sets of publications are planned and arranged to supplement each other without unnecessary duplication, and when combined they form a complete report of operations, methods, and results of the work of both the Government and State.[1]

COOPERATION OF THE COAST AND GEODETIC SURVEY.

The work of the Coast and Geodetic Survey, as the name of the service indicates, includes a survey of the coasts of the United States made on a geodetic basis. This has involved the gradual construction of a great framework of interstate triangulation for use as a foundation for detail hydrographic and topographic surveys, from which there has been compiled and published a complete set of charts of the coasts of the United States, including all waters of Maryland where oysters grow. This existing triangulation, hydrography, and topography is essential as a foundation for a correct and practical survey of natural oyster bars; and it being one of the fundamental functions of the Coast and Geodetic Survey to furnish such data, the cooperation of the Coast and Geodetic Survey with the Bureau of Fisheries and the Maryland Shell Fish Commission is a practical and natural development of Government work leading to the conservation and increase of the supply of food.

COOPERATION OF THE BUREAU OF FISHERIES.

The Bureau of Fisheries has cooperated with the Coast and Geodetic Survey and the Maryland Shell Fish Commission principally as an adviser in matters relating to the biological and economic survey of oyster bars and the methods to be employed for that purpose.[2] A steam launch, rowing boat, and certain apparatus have also been furnished.

The primary function of the Bureau of Fisheries is to increase the productiveness of marine and fresh waters by such measures as may be best suited to the purpose, and the services rendered in connection with the survey of the oyster bars of Maryland are strictly in line with the fundamental law under which it acts. In certain States other than Maryland similar work has been conducted by the bureau acting independently, the same ends being attained at greater expense to the Government.

GENERAL STATEMENT OF WORK OF COAST AND GEODETIC SURVEY.[3]

The results obtained from the work of the Coast and Geodetic Survey in cooperation with the Bureau of Fisheries and the Maryland Shell Fish Commission need very little other summary than is indicated by the published "Charts of Natural Oyster Bars" and the index of hydrographic projections and triangulation stations shown on the county progress maps attached to each report.

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[1] See Appendix D of this publication for "Statistics of results of combined operations of the Government and State."

[2] Hon. George M. Bowers, Commissioner of Fisheries, has detailed for this service Dr. H. F. Moore, assistant, Bureau of Fisheries.

[3] For a detail statement of the very large amount of excellent oyster-survey work of the Maryland Shell Fish Commission see the "Annual Reports of the Maryland Shell Fish Commission."

The triangulation has been carried on in accordance with the standard methods of the Coast and Geodetic Survey, making this work and that of the "Descriptions of Triangulation Stations" of permanent value, not only to the State of Maryland in the survey of her oyster bars but also to the Government for any future work it may do in the regions covered by the oyster-survey operations.

The hydrographic projections and published charts are prepared with all the accuracy permitted by their large scale, especially as to the boundaries of the various shellfish bottoms in relation to landmarks, but this accuracy of location on the charts is further added to and permanently fixed by published technical descriptions which should minimize the probability of any future dispute as to either landmarks or boundaries.

Stated another way, and quoting from the report of the "Survey of Oyster Bars of Anne Arundel County":

> The geographic positions of the permanent landmarks and signals have been determined with the usual precision of a trigonometric survey, and their locations at all points necessary to provide ample foundation for the surveying and charting operations permitted great accuracy of definition and location for the natural oyster-bar and other boundaries established. At the same time the very important element of permanency of the positions of boundaries has been secured, as the relocation of geodetic positions can always be accomplished by a competent surveyor, even though the original landmarks and monuments have been washed away, as has been the fate of hundreds of such points established by the Coast and Geodetic Survey on the shores of the Chesapeake Bay during the last 65 years.

REPORT OF THE WORK OF THE COAST AND GEODETIC SURVEY IN TALBOT COUNTY.

INSTRUCTIONS.

The following letters, together with the laws [1] of the United States relating to the subject, constitute the "instructions" received by the chief of the Coast and Geodetic Survey party engaged on work in connection with the Maryland Shell Fish Commission. They are short and definite, but furnish ample authority and leeway for all legitimate development of the cooperation of the Government and the State in the survey of oyster bars. The "free hand" permitted by these orders, together with the aid and many valuable suggestions received from the officers of the survey at Washington, have proved very beneficial to the work and are greatly appreciated:

DEPARTMENT OF COMMERCE AND LABOR,
OFFICE OF THE SECRETARY,
Washington, June 2, 1906.

SIR: In reply to your letter of May 28, requesting me to designate officers of the Coast and Geodetic Survey and of the Bureau of Fisheries to cooperate with the State of Maryland in making survey of and locating the natural oyster beds, I have the honor to inform you that Mr. C. C. Yates will be designated to cooperate on the part of the Coast and Geodetic Survey as soon as Congress makes the provisions of the act effective by providing an appropriation for the purpose.

Respectfully,

LAWRENCE O. MURRAY, *Assistant Secretary.*

His Excellency Hon. EDWIN WARFIELD,
Governor of Maryland, Annapolis, Md.

DEPARTMENT OF COMMERCE AND LABOR,
COAST AND GEODETIC SURVEY,
Washington, July 3, 1906.

SIR: Upon the receipt of these instructions you will surrender the command, accounts, etc., of the steamer *Endeavor* to the Hydrographic Inspector * * *.

As soon as this transfer is completed you will enter upon the duties of Coast Survey representative on the Shell Fish Commission of Maryland.

You will consult the Commissioners, prepare a program of work, and submit estimates in the usual form.

You are authorized to come to Washington for consultation from time to time as may be necessary.

* * * * * * *

Very respectfully,

O. H. TITTMANN, *Superintendent.*

Capt. C. C. YATES,
U. S. C. & G. S. Steamer "Endeavor," Baltimore, Md.

[1] For these laws see Appendix A.

ORGANIZATION AND EQUIPMENT.

The personnel and occupation of the party of the Coast and Geodetic Survey have remained practically unchanged since the beginning of the "oyster survey." Besides the chief of party, it consists of the necessary triangulators, computers, draftsmen, and temporary employees required to carry on both the surveying operations in the field and the preparation for publication of oyster charts and technical records in the office at Washington.

The equipment for the work of the party has been ample and satisfactory. The large living and office quarters furnished the Government on the Maryland Shell Fish Commission house-boat *Oyster* have been very convenient for the work, besides facilitating efficient cooperation with the surveying and oyster investigation parties of the State. In addition to the accommodations on the *Oyster*, the Coast and Geodetic Survey party has had the constant use of the large launch *Inspector* and several other boats furnished by its own service, and the occasional use of the Bureau of Fisheries launch *Canvasback* [1] and the steamer *Governor McLane* [2] of the State Fishery Force.

The greater part of the equipment of instruments for the operations of both the Government and State has been furnished by the Coast and Geodetic Survey, and consists of all necessary theodolites, levels, sextants, drafting instruments, hydrometers, etc., required for all field and office work.

CHRONOLOGICAL STATEMENT OF WORK.

The field work of the Coast and Geodetic Survey in Talbot County [3] dates from July 6, 1909, when the Maryland Shell Fish Commission house-boat *Oyster* was towed by the State Fishery Force steamer *Governor McLane* to an anchorage in the northern part of Prospect Bay near the southern entrance to Kent Narrows. From this harbor as headquarters a few additional triangulation observations were made in Kent County, although the greater part of the work was confined to Talbot and Queen Annes Counties.

On July 22, 1909, the house-boat was moved to the vicinity of Rockhall, and all field work in Talbot County was discontinued until August 13, 1909, when the *Oyster* was shifted back to Eastern Bay side of Kent Narrows, where she remained only two weeks. During this period Governor Crothers and party visited the house-boat and thoroughly examined into the manner and methods of the work of the Maryland oyster survey.

On August 28, 1909, the *Oyster* was towed to Haddaway Cove in Talbot County, where she stayed for only three days on account of the exposed position of the anchorage.

On August 31, 1909, the *Oyster* changed her anchorage to the very snug harbor inside of Poplar Island, where she remained until all the open Chesapeake Bay work was practically completed as far south as Tilghmans Island. While at this anchorage, one subparty living on shore was engaged on triangulation in Harris Creek with hired boats and an extra party of hands.

[1] By courtesy of Dr. H. F. Moore, United States Bureau of Fisheries.

[2] By courtesy of Capt. James A. Turner, commanding.

[3] The field work of Talbot County was so intermixed with that of Queen Annes and Dorchester Counties that the chronological statement of the work in one of these counties necessarily includes a considerable part of the work of the other two counties.

On September 22, 1909, the house-boat was towed to Dun Cove in Harris Creek. From this anchorage the triangulation of Harris Creek, as well as a considerable part of Broad Creek, was completed.

On October 16, 1909, the house-boat was moved back to Eastern Bay and tied up at the railway wharf at Claiborne. From this point the triangulation of Eastern Bay and its northern tributaries west of Kent Narrows was practically completed.

On October 29, 1909, the *Oyster* was moved to an anchorage in Tilghmans Creek, which is a branch of the Miles River. The next day completed a month's field work, which was notable as far as triangulation was concerned, on account of the number of stations which were established, marked, described, and located by observations. This number was 108, which is considerably larger than any previous month's record. A good part of this work was carried on by subparty living on shore at Cambridge.

On December 1, 1909, the house-boat *Oyster* was moved from Tilghmans Creek, where she had been for over a month, to an anchorage off St. Michaels. From this harbor the remaining triangulation of Wye River and Miles River was practically completed.

On December 21, 1909, active field work in Talbot County for the calendar year was closed at St. Michaels, but a signal-building subparty continued field work from quarters on shore at Oxford for two days longer.

On December 24, 1909, the field season for the Government parties was officially closed, but the monthly employees remained on the house-boat at Baltimore preparing launches and boats for the winter. All officers were on leave from the 25th to 31st.

On January 3, 1910, which was the first working day of the year, the winter's office work commenced, and the repairs to launches and construction of triangulation monuments were taken up on the house-boat *Oyster* by the foreman and two men.

The office work, which consisted of the completion of records, revising descriptions of location of triangulation stations, triangulation computations, oyster-bar computations, preparation of manuscripts of technical publications, drafting and scaling boundaries of oyster bars, etc., continued without a break, except as noted in the following paragraph.

During the period covered by the winter's office work the Maryland Legislature was in session, and as the consideration of oyster legislation formed a very important and prominent part of its proceedings, considerable time of the chief of party and his officers was expended in gathering and imparting information requested by various State officials.

On March 14, 1910, a subparty was organized and put in the field to complete certain necessary details of triangulation in Talbot and Dorchester Counties. This party first went to St. Michaels, then to Cambridge, and finally to Oxford, where the main party on the house-boat was joined at the end of April.

On April 30, 1910, the house-boat *Oyster* was towed from Baltimore by the State steamer *McLane* to an anchorage in Tar Creek, near Bellevue. While at this harbor the house-boat was cleaned, painted, and generally overhauled for the season's work, and at the same time triangulation was being carried on to completion in Tred Avon River, Island Creek, and other tributaries of lower Choptank River.

On May 30, 1910, the house-boat shifted her anchorage to Tred Avon River off Oxford, where she remained until the practical completion of all the remaining triangulation and other oyster survey work in Talbot County except in the upper Choptank River.

On June 30, 1910, the *Oyster* was towed to an anchorage off Cambridge, and from this point the oyster survey work of Talbot County in upper Choptank River was carried on to completion, together with that of Dorchester County in the adjacent region.

On July 20, 1910, the house-boat *Oyster* was moved to the Patuxent River off Solomons Island, and no further field work was done in Talbot County except from June 20 to June 21, 1912, when a small party was put in the field to complete certain necessary details of triangulation in Talbot and Dorchester Counties.

The office work connected with the oyster survey of Talbot County, including the computation of geographic information and the drafting necessary for the preparation for publication of the oyster charts and the technical records of that county, was carried on intermittingly with the office work of other counties from the beginning of the field work in Talbot County on July 6, 1909, to the time of filing of the certified oyster charts and technical records in the archives of the Maryland Shell Fish Commission and with the clerk of the circuit court of Talbot County on July 20, 1912.

STATISTICS.[1]

Landmarks and triangulation signals erected	315
Monuments planted to mark triangulation stations	311
Triangulation stations occupied for observations of horizontal angles	308
Old triangulation stations recovered	30
New triangulation stations established	306
Total old and new triangulation stations marked and described	336
Linear miles of shore line covered by triangulation (approximate)	230
Square miles covered by triangulation (approximate)	240
Hydrographic projections prepared and completed as records of oyster boundaries	14
Triangles computed	672
Geographic positions computed	330
Corners of oyster boundaries established by computation	671
Back azimuths and distances computed from corners of boundaries to triangulation stations	2,013
Descriptions of triangulation stations prepared for publication	336
Descriptions of oyster boundaries prepared for publication	132
"Charts of Natural Oyster Bars" prepared for publication	7
Progress map prepared for publication	1

GENERAL REMARKS.

Before ending this report the representative of the Coast and Geodetic Survey wishes to renew his statement of appreciation of the courteous assistance received from various Government and State officials and others interested in the oyster industry of Maryland, especially to the following:

[1] These statistics only include field and office work directly performed by the party of the Coast and Geodetic Survey in connection with the oyster survey of this county, and do not include the many thousands of soundings and examinations of the character of the bottom made by the engineers of the Commission, which are of considerable value to the Coast and Geodetic Survey as hydrographic records for future use in connection with the preparation of new editions of charts of the waters of Maryland. See Appendix D of this publication for "Statistics of results of combined operations of the Government and the State."

To his colleague from the Department of Commerce and Labor, Dr. H. F. Moore, of the Bureau of Fisheries, whose well-known scientific knowledge of all matters relating to oysters has been of great value to the work.

To Mr. Walter J. Mitchell, chairman of the Maryland Shell Fish Commission, who, by his administrative ability in carrying out the complicated requirements of the oyster laws and by his unfailing tact, has made the cooperation of the various services engaged on the work both agreeable and effective.

To Dr. Caswell Grave, secretary of the Commission, who, as editor of the Commission's annual report and commissioner in charge of the biological and economic oyster investigations, has been brought into constant contact with the Government work and aided its operations in every way.

To Mr. Benjamin K. Green, treasurer of the Commission, who has looked after the equipment and commissary of the house-boat in such a way as to add greatly to the comfort and convenience of the party of the Coast and Geodetic Survey.

To Mr. Swepson Earle, hydrographic engineer to the Commission, whose knowledge of the work from former service in the Coast and Geodetic Survey has greatly facilitated his practical use of the technical data furnished by the Government.

And to the many others connected with the Commission or who as residents in the locality where the work was being carried on have greatly assisted by furnishing important information or willing services.

CHARTS AND MAPS.[1]

CHARTS OF NATURAL OYSTER BARS.

The charts of the natural oyster bars of Talbot County published by the Coast and Geodetic Survey from results of the surveys of the Government in cooperation with the Maryland Shell Fish Commission consist of seven sheets covering all the oyster-producing waters of that county. They are published on the large scale of 1 part in 20,000 (approximately $3\frac{1}{16}$ inches to a statute mile) and are constructed on polyconic projections; and all information shown on them is based on the United States standard datum of the Coast and Geodetic Survey.

These charts show all oyster bars and other boundaries established by the Commission, and are certified for the purpose of filing in the office of the clerk of the circuit court of Talbot County and in the office of the Maryland Shell Fish Commission, as required by the oyster laws of Maryland.

In addition to the oyster bar and other boundaries, the charts show the location and name of all landmarks (United States Coast and Geodetic Survey triangulation stations) used in making the survey, together with the hydrography and topography [2] necessary to make the technical definitions and delineations of boundaries readily understandable both by the people engaged in the oyster industry and the general public who may become interested through leasing of barren bottoms for oyster culture.

The names of the oyster bars are those used locally, as nearly as could be ascertained by the hydrographic engineer of the Commission. When there was no local name in common use, a name was selected from one of the prominent features of the vicinity. By the use of recognized names or those that would naturally suggest certain sections of water, it is believed that much confusion will be avoided in the location on the charts of the oyster bars, especially by those not familiar with the use of maps.

The corners of the oyster bars are numbered from 1 to the total number of corners in each area under consideration. Where boundaries adjoin, making one point a corner of two or more oyster bars, these points have two or more numbers, each number corresponding to the bar in which the figure is located. The numbers of the corners correspond with the technical and legal descriptions of this publication under the heading "Boundaries of natural oyster bars."

The landmarks and oyster bars have been grouped in the "Contents" of this publication in accordance with the charts upon which they are shown. To find a particular oyster bar or landmark which is only known by name, consult the "Contents" and

[1] These charts can be obtained by application to the Superintendent of the Coast and Geodetic Survey, at Washington, D. C.

[2] Much of the detail of the inshore topography was obtained from the excellent map of Talbot County, prepared and published by the Maryland Geological Survey under the direction of Dr. William Bullock Clark from surveys of the Maryland Geological Survey in cooperation with the United States Geological Survey.

the desired chart and general location will be indicated. To find the name of a bar or landmark which is only known by location, consult the progress map at the end of this publication for the number of the chart on which it is to be found, and then examine the known locality on the chart for the name of the bar or landmark in question.

The contours on the charts showing the depth of water at mean low tide have been taken from the hydrographic sheets of former work of the Coast and Geodetic Survey. Four curves were selected as being the most convenient for taking off from the original hydrographic sheets and the ones of greatest value to those interested in shell fish industries. The 1-fathom contour (6 feet) and the 5-fathom curve (30 feet) correspond in a general way to the inner and outer limits of all the oyster bars surveyed. The 3-fathom contour (18 feet) furnishes the curve of about the average depth of water on the oyster bars, and the 10-fathom contour (60 feet) serves in a general way to indicate the outer limits of probable oyster culture.

The boundaries of the waters within the "territorial limits of the county" and the boundaries of the "waters contiguous to the county" opened up for the leasing with Talbot County are plainly indicated on the charts. A full technical description of these boundaries is given in this publication under the heading "Boundaries of county waters."

The areas in acres of the oyster bars were determined under the direction of the hydrographic engineer of the Commission by two independent planimeter measurements of the areas as delineated on the smooth projections of the Coast and Geodetic Survey. These areas are given in small figures in parentheses on the face of the chart within the boundaries of the different shell fish bottoms.

The symbols used on the charts for the different kinds of boundaries, triangulation stations, contours of depth of water, etc., require no other explanation than that given in the legend and other notes on the face of the charts.

LEASING CHARTS.

The leasing charts of Talbot County, like those for Anne Arundel, Somerset, Wicomico, Worcester, Calvert, Charles, St. Marys, Baltimore, Kent, and Queen Annes Counties, have been prepared under the direction of the hydrographic engineer of the Commission. They are constructed on polyconic projections on the scales of 1 part in 5,000 or 1 part in 10,000, as the needs of oyster culture may require, and the information shown on them is based on the United States standard datum of the Coast and Geodetic Survey.

These charts show all the oyster bars, crab bottoms, and clam beds and other boundaries established by the Commission, and also all boundaries of oyster lots leased for the purpose of oyster culture, thus making them comprehensive and valuable records of the results of the operations of the oyster-culture laws.

The lots leased under the provision of the "old 5-acre law" are frequently of irregular shape, but the lots leased under the provision of the new oyster laws must be of rectangular shape by the terms of that act. For this latter purpose the leasing charts have been divided by parallels of latitude and meridians of longitude into small rectangles of 1 acre or 5 acres, as may be best suited to the area under consideration, and

prospective leaseholders by the rules of the Commission are compelled to select whole rectangles as far as possible.

For reasons of the present changeable nature of the number of lots leased and the large number of charts required, the leasing charts are not likely to be published for some years, but they can be seen at any time on file at the offices of the Commission, in the Marine Bank Building at Baltimore.

PROJECTIONS.

The polyconic projections[1] covering Talbot County waters are 14 in number and on the scale of 1 part in 10,000. They were constructed by draftsmen of the Coast and Geodetic Survey, but the sextant positions which determine the location of the legal boundaries of the oyster bars as delineated by the Shell Fish Commission were plotted by the draftsman of the Commission.

A copy of each of these projections, with all the plotted positions of triangulation stations, shore line, sextant positions, and boundaries of oyster bars, was made under the direction of the hydrographic engineer of the Commission by pricking through with a sharp needle the intersections of the projection lines and all other points as plotted on the original sheets.

These projections (in duplicate) are the original records of all oyster bar and other boundaries established by the Commission, one set being filed in the archives of the Coast and Geodetic Survey, at Washington, and the other set in the archives of the Shell Fish Commission.

PROGRESS MAPS.

The progress map to be found at the end of this publication is on a scale of 1 part in 100,000, and shows in outline the work accomplished by the United States Coast and Geodetic Survey in Talbot County and contiguous waters. It gives the scheme of all the charts and smooth projections constructed in connection with the survey, the location and names of all triangulation stations used as a basis for the surveying work, and the "boundaries of county waters" established by the Commission for the purpose of carrying out the laws of Maryland relating to oyster culture.

Besides indicating the amount of work done by the Coast and Geodetic Survey in connection with the work of the Shell Fish Commission, this progress map will be of special value for index purposes to engineers and others searching for the particular chart or projection covering the locality of the oyster bars or landmarks that may be under consideration.

The progress maps[2] accompanying the first and second annual reports of the Maryland Shell Fish Commission were prepared under the direction of the hydrographic engineer of the Commission. They are on the scale of 1 part in 400,000, and show the outline of the tide-water counties of Maryland, with shaded areas to indicate the waters already covered by the operations of the oyster survey.

[1] For the scheme of these projections see the progress map at the end of this publication.

[2] These maps and reports can be obtained by application to Maryland Shell Fish Commission, Marine Bank Building, Baltimore, Md.

BOUNDARIES OF THE COUNTY WATERS.[1]

WATERS WITHIN TERRITORIAL LIMITS OF COUNTY.

The laws of Maryland relating to oyster culture provide that "no person shall be permitted, by lease, assignment, or in any other manner, to acquire a greater amount of land than ten acres situated within the territorial limits of any of the counties, or one hundred acres in any other place."

The boundary line[2] between the waters "within the territorial limits" of Talbot County and the waters in "any other place," as established by the Shell Fish Commission for the purpose of carrying out the oyster laws, and delineated on the "oyster" charts and the smooth projections of the Coast and Geodetic Survey, is technically described and defined as follows:

Commencing at the head of the oyster-producing waters of Wye River on the channel boundary line between Talbot County and Queen Annes County; thence following the channel boundary line between Talbot County and Queen Annes County down the upper Wye River to a point situated in the vicinity of the eastern end of Wye Island; thence continuing down the channel of the branch of Wye River running south of Wye Island along the boundary line between Talbot County and Queen Annes County, as laid down on "Chart No. 32, Natural Oyster Bars, Maryland," to the mouth of Wye River; thence continuing along the boundary line between Talbot County and Queen Annes County, as laid down on "Chart No. 32, Natural Oyster Bars, Maryland," passing into Miles River in a curved line about half way between Herring Island and Bennett Point and then down Miles River to a point situated about 1½ miles northeast of Tilghmans Point in the Eastern Bay entrance of Miles River; thence continuing on the boundary line between Talbot County and Queen Annes County in Eastern Bay as laid down on "Charts Nos. 31 and 32, Natural Oyster Bars, Maryland," to a point situated in the Chesapeake Bay entrance of Eastern Bay defined by the intersection of the boundary line between Talbot County and Queen Annes County and a straight line between a point on Kent Point on the southern extremity of Kent Island defined by[3] latitude 38° 50′ 05.1″ and longitude 76° 22′ 06.2″ and a point situated on Wades Point on the eastern side of the entrance of Eastern Bay defined by latitude 38° 49′ 34.2″ and longitude 76° 18′ 04.5″; thence in a straight line across the eastern half of the Chesapeake Bay entrance of Eastern Bay to a point on Wades Point defined by latitude 38° 49′ 34.2″ and longitude 76° 18′ 04.5″; thence in a southerly direction along the mean low water line or across the mouth of all inlets less than 100 yards in width, as the case may be, of the eastern shore of Chesapeake Bay to a point situated on Lows Point defined by latitude 38° 46′ 33.4″ and longitude 76° 20′ 07.4″; thence in a straight line across the northern entrance of Poplar Island Narrows to a point situated on the northern end of Poplar Island defined by latitude 38° 46′ 42.8″ and longitude 76° 22′ 25.0″; thence along the mean low water line or across the mouth of all inlets less than 100 yards in width, as the case may be, of the western shore of

[1] For a complete historical and legal description of the boundaries of the counties of Maryland, the valuable publication entitled "The Counties of Maryland—Their Origin, Boundaries, and Election Districts," prepared by Dr. Edward B. Mathews and published by the Maryland Geological Survey under the direction of Dr. William Bullock Clark, superintendent, should be consulted, as the boundaries described in this publication have been established and technically defined for the purpose of carrying out the oyster laws of the State, and may or may not be correct for other purposes.

[2] See "Charts of Natural Oyster Bars," published by the Coast and Geodetic Survey, and the progress map at the end of this publication.

[3] Latitudes and longitudes based on the United States standard datum of the United States Coast and Geodetic Survey.

Poplar Island to a point situated on the southern end of the main part of Poplar Island defined by latitude 38° 45′ 17.5″ and longitude 76° 22′ 43.6″; thence in a straight line across an inlet into Poplar Island Harbor to a point situated on the western extremity of the detached part of Poplar Island known as Coaches Neck defined by latitude 38° 45′ 08.8″ and longitude 76° 22′ 35.3″; thence along the mean low water line or across the mouth of all inlets less than 100 yards in width, as the case may be, of the western and southern shore of a detached part of Poplar Island known as Coaches Neck to a point situated on its eastern extremity defined by latitude 38° 44′ 59.4″ and longitude 76° 21′ 46.5″; thence in a straight line across the southern entrance of Poplar Island Narrows to a point situated on the mainland on Great Marsh Point defined by latitude 38° 44′ 56.0″ and longitude 76° 20′ 34.2″; thence in a southerly direction along the mean low water line or across the mouth of all inlets less than 100 yards in width, as the case may be, of the eastern shore of Chesapeake Bay to a point situated on the northern side of the entrance to Front Creek defined by latitude 38° 43′ 47.5″ and longitude 76° 20′ 34.0″; thence in a straight line across the Chesapeake Bay entrance of Front Creek and Knapps Narrows to a point situated on the southern side of Chesapeake Bay entrance of Knapps Narrows defined by latitude 38° 43′ 14.8″ and longitude 76° 20′ 27.6″; thence in a southerly direction along the mean low water line or across the mouth of all inlets less than 100 yards in width, as the case may be, of the eastern shore of Chesapeake Bay to a point situated on Blackwalnut Point on the northwestern side of the Chesapeake Bay entrance of lower Choptank River defined by latitude 38° 40′ 06.6″ and longitude 76° 20′ 24.7″; thence in a straight line ending at a point situated on Cook Point on the southeastern side of the Chesapeake Bay entrance of lower Choptank River defined by latitude 38° 37′ 55.7″ and longitude 76° 17′ 28.7″ to a point on this line defined by its intersection with boundary line in lower Choptank River between Talbot County and Dorchester County as laid down on "Charts Nos. 33, 36, and 37, Natural Oyster Bars, Maryland;" thence along the boundary line in lower Choptank River between Talbot County and Dorchester County as laid down on "Charts Nos. 33, 34, 36, and 37, Natural Oyster Bars, Maryland," to the entrance of upper Choptank River between Castle Haven Point and Island Creek; thence continuing along the boundary line between Talbot County and Dorchester County up the channel of upper Choptank River pass the city of Cambridge around Chancellors Point and pass the town of Choptank, all as laid down on "Chart No. 35, Natural Oyster Bars, Maryland;" thence continuing up the channel boundary line of upper Choptank River between Talbot County and Dorchester County to the head of the oyster-producing waters.

WATERS CONTIGUOUS TO COUNTY.

The oyster laws of Maryland provide that a true and accurate delineation of all natural oyster bars shall be made on copies of charts of the United States Coast and Geodetic Survey, "which said copies shall be filed in the office of the said commissioners in the city of Baltimore," and "in the office of the clerks of the circuit courts for the respective counties wherein the grounds so designated may lie."

For the purpose of carrying out the latter part of this section of the law and for the purpose of establishing the limits of the oyster-culture area to be opened up for leasing with each county surveyed, it is necessary for the Shell Fish Commission to establish a boundary line between the waters contiguous to but not within the territorial limits of each county and the waters contiguous to but not within the territorial limits of adjacent counties.

This boundary line has been delineated on the "Charts of Natural Oyster Bars," published by the Coast and Geodetic Survey, and is technically described and defined as follows:

Commencing at a point in the Chesapeake Bay entrance of Eastern Bay defined by the intersection of the boundary line between Talbot County and Queen Annes County, as laid down on "Chart No. 31, Natural Oyster Bars, Maryland," with a straight line across the Chesapeake Bay entrance of Eastern Bay,

defined at its western end by a point situated on the southern extremity of Kent Island in latitude 38° 50′ 05.1″ and longitude 76° 22′ 06. 2″ and defined at its eastern end by a point situated on Wades Point on the eastern side of the entrance of Eastern Bay in latitude 38° 49′ 34.2″ and longitude 76° 18′ 04.5″; thence along the boundary line between Talbot County and Queen Annes County, passing into Chesapeake Bay between Kent Island and Poplar Island, as laid down on "Chart No. 31, Natural Oyster Bars, Maryland," to a point situated in Chesapeake Bay about 3¼ miles southwest of Bloody Point Bar Light defined by latitude 38° 46′ 06.6″ and longitude 76° 26′ 37.1″; thence in a straight line in a southerly direction with Chesapeake Bay to a point situated in Chesapeake Bay about 3⅝ miles east of Hog Point and 5⅜ miles southwest of Poplar Island, defined by latitude 38° 42′ 33.4″ and longitude 76° 27′ 40.0″; thence in a straight line in a southerly direction with Chesapeake Bay to a point situated in Chesapeake Bay about 5½ miles southwest of Sharps Island Light and 5¾ miles northwest of James Island, defined by latitude 38° 34′ 29.6″ and longitude 75° 26′ 17.0″; thence along the boundary line between Talbot County and Dorchester County, passing south of Sharps Island into the Chesapeake Bay entrance of the lower Choptank River, as laid down on "Charts Nos. 33, 36, and 37, Natural Oyster Bars, Maryland," to a point defined by the intersection of this boundary line with a straight line across the entrance of lower Choptank River, defined at its northwestern end by a point situated on Blackwalnut Point in latitude 38° 40′ 06.6″ and longitude 76° 20′ 24.7″ and defined at its southeastern end by a point situated on Cook Point in latitude 38° 37′ 55.7″ and longitude 76° 17′ 28.7″.[1]

[1] Latitudes and longitudes based on the United States standard datum of the United States Coast and Geodetic Survey.

LANDMARKS (U. S. COAST AND GEODETIC SURVEY TRIANGULATION STATIONS).

EXPLANATION.

The oyster laws of Maryland authorizing the survey to be made by the Shell Fish Commission provide for "an accurate report of said survey, setting forth such a description of landmarks as may be necessary to enable the said board, or their successors, to find and ascertain the boundary lines of said natural oyster beds, bars, and rocks, as shown by delineation on the maps and charts." The law of the United States authorizing the cooperation of the Department of Commerce and Labor in the survey of natural oyster bars of Maryland provides for the erection of "such structures as may be necessary to mark the points of triangulation, so that the same may be used for such future work of the Coast and Geodetic Survey as the said bureau may be hereafter required to perform in prosecuting the Government coast survey of the navigable waters of the United States located within the State of Maryland."

Under the provisions of the sections of the laws stated above, the markings and descriptions of landmarks must be sufficient for the present and future needs of both the Government and the State. With this end in view, considerable work has been expended in erecting permanent monuments at the triangulation stations and in the proper description of their location.

An effort has been made to arrange the descriptions of location and character of landmarks in a uniform and logical manner. The descriptions start with the assumption that the individual seeking a landmark has only an indefinite idea of its location. They gradually proceed from description of the general locality of a landmark to the descriptions of its immediate surroundings. This is followed by specific details of the character of the center and reference marks and a "round" of reference angles and distances which in themselves frequently contain enough information to furnish an independent and reliable location of the triangulation station.

METHOD OF DESCRIBING TRIANGULATION STATIONS.

The separate descriptions of triangulation stations should not be used without reading the following explanation of the method of describing the triangulation stations, as it contains certain details that are common to all the landmarks described in this publication and which are omitted in the separate descriptions as being needless repetitions:

Name.—The title at the top of each separate description is the name by which the landmark or triangulation station is known and designated in all work and published oyster records or oyster charts of both the Government and State. The selection of the name is usually left to the triangulator establishing the station, and it may or may not have geographic or other significance in reference to the locality.

General locality.—Under this heading is given the general locality of the landmark in reference to well-known and prominent natural or artificial features, such as the nearest body of water, town, river, steamer wharf, well-defined point of land, church, or any other feature that is likely to remain both permanent and prominent.

This heading also covers a reference to the published chart or map which shows the location of the station most clearly. Nearly all the triangulation stations described in this publication are plainly indicated by name and a triangulation symbol on the published charts of oyster bars of Maryland. In this case they are referred to by serial number only, the words "charts of oyster bars of Maryland" being omitted to avoid needless repetition. These published oyster charts are on the large scale of 1 part in 20,000 (approximately $3\frac{1}{6}$ inches to a statute mile) and show the locations of the triangulation stations so clearly that in many cases the written descriptions will not be required to find them.

Immediate locality.—Under this heading is given the description of the "observed station" in reference to its immediate surroundings. This is supposed to include a statement of the station's estimated elevation above high water or some other well-defined level of the locality, such as a road or house; the character of the ground on which it is located, such as marsh land, sand beach, cultivated field, or meadow; estimated bearings in points of the compass and estimated distances in yards *from* (*not to*) easily recognized features, such as extreme end of point, edge of bluff, bank of creek, line of telephone poles, shore line, barn, house, fence, ditch, trees, or any other definite detail, such as being on range with the tangent of an island and a church, etc.

When a standard monument has been established near the station as a "reference station," this heading also covers a statement of the true bearing of the monument in degrees and minutes and its measured distance in meters, as it is the first object that is likely to catch the eye when the immediate vicinity of the desired station is reached and might be mistaken for the center mark of the "observed station" unless special attention is called to it.

The distinction between the "observed station" and "reference station" should be carefully noted by anyone making use of the description of stations for any future surveying operations.

The "observed station" is located at the particular triangulation point covered by the description of stations, and is the one whose geographic position is first computed, as it is the point which was "occupied" and "observed on" for horizontal angles. However, in spite of the primary importance of the location of the "observed station," it will be noted from the description of stations that frequently it is not marked as well as the "reference station," and in some instances has only a pine stub to indicate its position. This is the case for the reason that the necessity of intervisibility of landmarks usually made it compulsory to locate "observed stations" on edges of banks and ends of points of land, which in the tide-water section of Maryland generally means they will be washed away in a short period of years. The past experience of the Coast and Geodetic Survey in this region has shown the great need of "reference stations," if the frequent reestablishment of a new framework of triangulation is to be avoided.

The chief reason and need for the establishment of the "reference station," or secondary station, as it might be well named, is explained in the preceding paragraph,

but in several instances other reasons, such as the location of the "observed station" on an unstable sand dune, in a cultivated field, in front of a residence, or other places objectionable to the landowner, have led to establishment of "reference stations." The location of the "reference station" in relation to the "observed station" is fixed for plotting on charts or for computation of its geographic position by checked measurements of its distances and azimuth from the "observed station." [1]

Marks.—Under this heading is given a description of the character of the permanent monuments or other marks of the location of the "observed station," and of the "reference station" where one has been established.

All the marks designated in the descriptions as "the center point of triangle on standard cement monument" are exactly alike. These monuments are made of cement, sand, and gravel, and are 2 feet long and 8 inches square at top and bottom. Their tops are all marked with the same brass mold and show a center hole surrounded by a triangle, with the letters "M. S. F. C." arranged around the vertex and the letters "U. S. C. S." underneath the base of the triangle. The center hole is always in the center of the top of the monument by construction, and if this is found to have been broken off without disturbing the bottom, the center of its square section can be used as the location of the station.

All the "standard cement monuments," whether used for marking the "observed station" or "reference station," have been planted upright in exactly the same manner, with their tops projecting 3 or 4 inches above the surface of the ground, unless otherwise stated.

Therefore, as the above facts in reference to the "standard cement monuments" are a constant element in all cases, the repetition of these facts in the description of stations is made needless by this one statement.

References.—Under this heading are given the "rounds" of directions and distances to all objects that might be useful in locating the stations when the surface marks can not be found. It is also contemplated that for general purposes of topography, hydrography, or location of boundaries of oyster bars these references will be sufficient in many cases to relocate the position of an "observed station" or "reference station" when both of them have been destroyed.

The first reference object given in the descriptions is always a triangulation station visible from the station being described, this, if possible, being a lighthouse, church spire, or other permanent and prominent point. Its direction is taken as being 0° 00′ 00,″ and the directions of all other objects are measured from it as an initial point, the angles being taken in a clockwise direction (left to right).

The true bearing [2] of the initial object is always given in parentheses alongside its name. This furnishes means for the calculation of the bearings of any of the other reference objects for the purposes of locating a station by horizontal angles or for the relocation of corner buoys of oyster-bar boundaries by the method of compass directions described in this publication under the heading of "Boundaries of oyster bars."

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[1] Geographic coordinates (latitude, longitude, distance, and azimuth) relating to any of the "observed stations" or of the "reference stations" described in this publication can be obtained by application to the Superintendent of the Coast and Geodetic Survey, at Washington, D. C.

[2] The mean magnetic variation for Talbot County was 6° 10′ west of north in 1911 and increasing at the rate of 5′ yearly.

The distances in the last column under "References" are given in three different units, which vary according to their accuracy. The "miles" are statute miles, and may be considered only as rough estimates. The "yards" are more accurate, but must be looked on as results generally obtained by pacing or careful estimating. The "meters," however, are accurate to the degree indicated by their decimals and in every case have been measured with a steel tape. In the same manner, the accuracy of the directions are indicated by the refinement of angular measure with which they are recorded.

THOMAS POINT SHOAL LIGHT.

General locality.—Western side of Chesapeake Bay offshore about 1¼ miles southeast of Thomas Point and 3 miles south of entrance to channel to Annapolis. (See Chart No. 31.)

Immediate locality.—Observed station is on a hexagonal screw-pile structure known as Thomas Point Shoal Lighthouse.

Marks.—Observed station is center point of lantern on Thomas Point Shoal Lighthouse.

References—

	°	′	″		
"Thomas 3" (N 56° 07′ W)	0	00	00	.....	1¼ miles.

BLOODY POINT BAR LIGHT.

General locality.—Offshore of southwestern end of Kent Island on northern side of entrance to Eastern Bay about 1⅛ miles southwest of Bloody Point and 1¼ miles west of Kent Point. (See Chart No. 31.)

Immediate locality.—Observed station is on tower on caisson structure known as Bloody Point Bar Lighthouse.

Marks.—Observed station is center point of lantern on Bloody Point Bar Lighthouse.

References.—

	°	′	″		
"Valiant" (S 4° 59′ E)	0	00	00	.....	4½ miles.

TENK.

General locality.—Northern side of entrance to Eastern Bay on Kent Point about 1½ miles east of Bloody Point Bar Light. (See Chart No. 31.)

Immediate locality.—Observed station is in about 2 feet of water 18 yards offshore of Kent Point, 50 yards southwest of point of land, and 65 yards south-southeast of another point of land. Cement monument marking reference station is 35.94 meters N 36° 15′ W of observed station.

Marks.—Observed station is nail in center of 3-inch square stub in water with top about on level with high water. Reference station is center point of triangle on standard cement monument projecting 6 inches above surface of ground.

References.—

	°	′	″		
"Bloody Point Bar Light" (S 86° 34′ W)	0	00	00	.....	1¼ miles.
Reference Station	57	11	30	.....	35.94 meters.
Chimney of house on Tilghmans Point Farm	169	26	..	.....	5⅞ miles.
"Rich Neck Water Tank"	175	48	10	.....	5¼ miles.
Flagpole on Claiborne train shed	181	14	..	.....	4½ miles.
Right chimney of house	188	34	..	.....	4½ miles.
"Kemp Tower"	190	21	30	.....	3⅝ miles.
Right chimney of brick house	206	17	..	.....	3¾ miles.
Right chimney of house	240	12	..	.....	4½ miles.
Chimney left of house among trees on Poplar Island	278	26	..	.....	3¾ miles.

STRAIGHT.

General locality.—Northern shore of Eastern Bay on Long Point about 2¼ miles northeast of Kent Point, 2⅞ miles northwest of Wades Point and ⅛ mile northeast of entrance to Long Point Creek. (See Chart No. 31.)

Immediate locality.—Observed station is in a cultivated field about 8 feet above high water, 35 yards west of edge of bank, 45 yards northwest of edge of bank near a tree, 80 yards south-southwest of fence corner, 245 yards south-southeast of fence corner at gate, and 175 yards east-southeast of woods.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Needle" (N 48° 15′ E)	0	00	00	4⅛ miles.
Left tangent of Tilghmans Point	35	07	..	4⅝ miles.
Chimney of house on Tilghmans Point Farm	42	27	..	4⅛ miles.
"Kemp Tower"	83	46	00	2⅞ miles.
Nail in blaze in red oak tree (22 inches diameter)	113	59	00	31.06 meters.
Right tangent of woods on Poplar Island	155	30	..	5¾ miles.
Left tangent of woods on Kent Point	179	48	..	
South peak of building	264	18	..	½ mile.
East peak of barn	317	48	..	¾ mile.
South chimney of house	330	10	..	¼ mile.

MOUTH.

General locality.—Northern shore of Eastern Bay on eastern shore of Kent Island about 1¼ miles north of Long Point, 3⅝ miles northwest of Claiborne Wharf, and 3¼ miles southwest of Bodkin Island. (See Chart No. 31.)

Immediate locality.—Observed station is in a cultivated field about 8 feet above high water, 10 yards west of top of a bank with uniform slope to shore, 50 yards south of a small cove, and 20 yards south of a group of cedar trees near shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Matta" (N 5° 49′ W)	0	00	00	2¼ miles.
South gable of barn	26	41	..	4¼ miles.
West gable of house	33	35	..	2¾ miles.
Right tangent of woods on Turkey Point	50	25	..	3 miles.
"Parsons Island Water Tank"	66	43	..	5⅜ miles.
North gable of barn	74	49	..	6¼ miles.
Left tangent of woods on Tilghmans Point	103	05	..	4¼ miles.
South chimney of house on Tilghmans Point Farm	112	19	..	4 miles.
"Rich Neck Water Tank"	124	48	40	3⅞ miles.
South gable of Claiborne Wharf house	137	41	..	3½ miles.
"Kemp Tower"	154	09	..	3½ miles.
East chimney of Legg house	224	59	..	⅜ mile.
Chimney of small house	286	35	..	1½ miles.
South gable of barn	342	46	..	1⅜ miles.

MATTA.

General locality.—Northern shore of Eastern Bay on eastern shore of Kent Island at western side of entrance to Shipping Creek about 2 miles west of Turkey Point. (See Chart No. 31.)

Immediate locality.—Observed station is in cultivated field about 15 feet above high water, 125 yards southwest of extreme end of point, 25 yards northwest of dry ditch, and 200 yards northwest of lone cedar tree near shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Batts" (N 67° 45′ E)	0	00	00	1 mile.
North chimney of house	17	54	..	2 miles.
Left tangent of woods on Tilghmans Point	54	30	..	5⅜ miles.
North chimney of house on Tilghmans Point Farm	62	34	..	5⅜ miles.
"Rich Neck Water Tank"	71	31	..	5½ miles.
Left tangent of woods on Long Point	105	49	..	2½ miles.
Chimney of Greeve house	124	53	..	¼ mile.
South chimney of house	231	14	..	¾ mile.
South cupola on barn	247	39	..	⅞ mile.
East chimney of house	273	58	..	1½ miles.
Chimney of small house	296	12	..	1¼ miles.
West chimney of house	305	45	..	1⅛ miles.

BATTS.

General locality.—Northern shore of Eastern Bay on southern end of Batts Neck between Shipping and Cox Creeks about 1¼ miles northwest of Turkey Point. (See Chart No. 31.)

Immediate locality.—Observed station is in cultivated field about 2 feet above high water, 21 yards north of shore, and 100 yards west of a wire fence extending 100 yards into bay.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument. Station "Coxes Creek," 1899, is 87.70 meters N 72° 20′ E of observed station and is marked by the center of a cross in the top of a granite post about 12 inches square in the rough and about 27 inches long projecting 5 inches above surface of ground. The top of the granite post is dressed to a 6-inch cube marked with a square cross and the letters U. S. Subsurface mark is center of neck of a bottle buried with top 3 inches below base of granite post.

References.—

	°	′	″	
"Turkey" (S 58° 24′ E)	0	00	00	1¼ miles.
North chimney of house on Tilghmans Point Farm	19	25	..	5 miles.
"Rich Neck Water Tank"	28	26	..	5¼ miles.
Nail in blaze in one of twin persimmon trees (4 inches diameter)	37	36	40	3.94 meters.
Left tangent of woods on Long Point	69	48	..	3¼ miles.
East gable of house	76	30	..	2½ miles.
Nail in blaze in persimmon tree (6 inches diameter)	91	13	50	9.76 meters.
South chimney of house	202	08	..	⅜ mile.
South chimney of house	242	32	..	¾ mile.
South gable of barn	271	54	..	1¼ miles.
North chimney of house	293	22	..	1⅜ miles.
"Coxes Creek, 1899" (granite post)	310	44	20	87.70 meters.
North chimney of house	341	07	..	1⅛ miles.

TURKEY.

General locality.—Northern shore of Eastern Bay on southern end of Cox Neck on Turkey Point about 1 mile west of the north end of Bodkin Island. (See Chart No. 31.)

Immediate locality.—Observed station is in marsh meadow about 2 feet above high water, 40 yards northeast of shore, 200 yards south of a group of three pine trees near shore, and in center of triangle formed by three pine stubs driven flush with marsh to support theodolite.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Mouth" (S 40° 32′ W)	0	00	00	2¾ miles.
Chimney of house	23	19	..	2¾ miles.
Chimney of Greeve house	49	14	..	2½ miles.
South cupola on barn	68	20	..	2¾ miles.
North chimney of house	72	30	..	2½ miles.
South chimney of house	103	39	..	1¾ miles.
South chimney of house	113	22	..	2½ miles.
West pine tree of group	132	12	..	200 yards.
Right tangent of Bodkin Island	254	46	..	1 mile.
Left tangent of Tilghmans Point	275	23	..	3½ miles.
North chimney of house on Tilghmans Point Farm	286	38	..	3¾ miles.
"Rich Neck Water Tank"	297	25	..	4¼ miles.
Left tangent of woods on Long Point	352	26	..	3 miles.

NEEDLE.

General locality.—Northern part of Eastern Bay on Bodkin Island at entrance to Crab Alley Bay about 1½ miles west of the south end of Parsons Island and 1 mile east-southeast of Turkey Point. (See Chart No. 31.)

Immediate locality.—Observed station is near south end of Bodkin Island, about 12 feet above high water, 50 yards north by west of shore, 90 yards northeast by east of shore, 115 yards west-southwest of shore, and in center of radial lines of sight cut in bushes.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Straight" (S 48° 17′ W)	0	00	00	4⅛ miles.
Nail in blaze in pine tree (6 inches diameter)	5	51	30	22.78 meters.
Nail in blaze in pine tree (8 inches diameter)	27	56	10	17.17 meters.
Right chimney of large house	64	29	..	3¼ miles.
Nail in blaze in pine tree (6 inches diameter)	82	06	50	11.54 meters.
Chimney of house on Parsons Island	194	43	..	2⅛ miles.
Near chimney of Starr, large, brick house	262	54	..	6½ miles.
Cupola on left barn of Tilghmans Point Farm	289	40	..	3 miles.
Chimney of bungalow	324	57	..	5⅛ miles.
Nail in blaze in pine tree (7 inches diameter)	345	25	00	18.20 meters.

COX.

General locality.—Western shore of Crab Alley Bay on Cox Neck about ⅜ mile north of Eastern Bay and 1 mile northwest of Bodkin Island. (See Chart No. 31.)

Immediate locality.—Observed station is at edge of a cultivated field on narrow neck of land about 3 feet above high water, 16 yards west of shore, 18 yards east of shore, and 80 yards northwest of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Tull" (N 12° 34′ E)	0	00	00	1⅝ miles.
Chimney of small house	12	54	..	2¼ miles.
Chimney of house	21	19	..	2½ miles.
Cupola on barn	30	09	..	2¾ miles.
Right corner of old barn	49	27	..	2⅛ miles.
East chimney of large brick house	54	32	..	2⅛ miles.
Right tangent of Normans Point	61	40	..	2 miles.
North gable of barn on Parsons Island	79	50	..	2½ miles.
Left tangent of Bodkin Island	123	47	..	⅞ mile.
East gable of barn	227	02	..	⅜ mile.
Chimney of house	232	44	..	3 miles.
Chimney of house	255	50	..	2⅞ miles.

RICH NECK WATER TANK.

General locality.—On neck of land about halfway between Eastern Bay and Miles River about 1¾ miles south-southwest of Tilghmans Point. (See Charts Nos. 31 and 32.)

Immediate locality.—Observed station is on large water tank on steel tower on Rich Neck Farm.

Marks.—Observed station is spindle on center of water tank.

References.—

None necessary.

KEMP TOWER.

General locality.—Southern shore of Eastern Bay on Wades Point about 1 mile southwest of Claiborne Wharf and 5⅛ miles east of Bloody Point Bar Light. (See Chart No. 31.)

Immediate locality.—Observed station is on tower or cupola of Wades Point Hotel, which is a large, square, frame structure adjoining a brick house.

Marks.—Observed station is center of top of roof of cupola.

References.—

None necessary.

KEMP.

General locality.—Southern shore of Eastern Bay on Wades Point about 1⅜ miles southwest of Claiborne Wharf and 4⅞ miles east by south of Bloody Point Bar Light. (See Chart No. 31.)

Immediate locality.—Observed station is in cultivated land about 8 feet above high water, 30 yards east by north of a wire fence and several trees, 55 yards south-southeast of edge of bank, 90 yards east-northeast of a bungalow, 130 yards north by west of a wire and wood fence corner, 130 yards north-northwest of wooden fence, and 400 yards west by south of Wades Point Hotel.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Bloody Point Bar Light" (N 83° 37′ W)	0	00	00	4⅞ miles.
Nail in blaze in locust tree (14 inches diameter)	1	41	30	35.07 meters.
Left tangent of Kent Point	3	11	..	3⅝ miles.
Chimney on middle of house	17	12	..	3⅞ miles.
Left peak of barn	25	21	..	4¼ miles.
Chimney of house	31	04	..	3¼ miles.
Left chimney of house	45	27	..	3 miles.
Peak of main part of house	63	15	..	5½ miles.

References—Continued.	°	′	″		
Left tangent of Tilghmans Point	128	06	..	.....	3½ miles.
"Dixon" (center of house)	130	07	50	.....	2⅞ miles.
"Kemp Tower"	139	06	40	.....	¼ mile.
Fence corner (wood and wire)	244	43	..	.....	132 yards.
Near corner of cook house	288	40	..	.....	110 yards.
Nail in blaze in locust tree (7 inches diameter)	300	20	20	.....	27.23 meters.
Right corner post of piazza	306	24	..	.....	90 yards.
Nail in blaze in cedar tree (6 inches diameter)	210	43	30	.....	26.97 meters.

END.

General locality.—Western shore of Harris Creek on southwestern side of entrance to Northwest Branch. (See Charts Nos. 31, 32, and 34.)

Immediate locality.—Observed station is in a cultivated field about 5 feet above high water, and 4 yards west of shore. Cement monument marking reference station is 14.76 meters S 83° 58′ W of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 5 inches above surface of ground. Reference station is center point of triangle on standard cement monument projecting 3 inches above surface of ground.

References.—	°	′	″		
"Rod" (S 79° 51′ E)	0	00	00	.....	⅜ mile.
West gable of barn	11	40	..	.....	⅞ mile.
North chimney of Miller house	45	37	..	.....	1¼ miles.
REFERENCE STATION	163	48	20	.....	14.76 meters.
South gable of barn	208	51	..	.....	200 yards.
South chimney of Kirby house	218	48	..	.....	200 yards.
South chimney of house	259	20	..	.....	½ mile.
West gable of tin-roofed barn	262	00	..	.....	⅜ mile.
South chimney of Harrison house	345	20	..	.....	¾ mile.

LAWN.

General locality.—Western shore of upper Harris Creek about ½ mile south of junction of Northeast Branch and Northwest Branch. (See Charts Nos. 31, 32, and 34.)

Immediate locality.—Observed station is in northeast corner of a lawn about 5 feet above high water, 10 feet southwest of top of vertical bank washed by high water, and 16 yards northwest of bathhouse and wharf.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"End" (N 17° 03′ W)	0	00	00	.....	⅜ mile.
Nail in locust stump	24	10	..	.....	0.84 meter.
Cupola on barn	39	41	..	.....	2½ miles.
South chimney of Harrison house	54	34	..	.....	⅝ mile.
North chimney of house	95	46	..	.....	¾ mile.
North chimney of house	139	33	..	.....	1¼ miles.
North chimney of Miller house	143	27	..	.....	⅜ mile.
Nail in blaze in walnut tree (18 inches diameter)	199	25	40	.....	2.55 meters.
Nail in blaze in cherry tree (24 inches diameter)	264	30	30	.....	5.96 meters.

PARSONS.

General locality.—In northern side of Eastern Bay on western side of Parsons Island about 3 miles north of Tilghmans Point. (See Chart No. 32.)

Immediate locality.—Observed station is in cultivated land on highest part of island about 15 feet above high water, 110 yards southeast of shore, 270 yards south-southwest of Parsons Island water tank, 350 yards southwest of a house, 380 yards west-southwest of a large barn, 145 yards northeast of a wire fence, 155 yards northwest of wire fence at farm road, 195 yards southeast of a fence, and on the range of the west edge of the south chimney on the lower gable of the house with the west side of a window in the center of the south side of the house. Cement monument marking reference station is 26.10 meters N 21° 43′ E of observed station.

Marks.—Observed station is center of cross cut on rough granite stone about 35 inches long and 12 inches square with top cut to 6-inch cube and marked "U. S." in lower half of cross. Subsurface mark is the mouth of a bottle 3 inches below base of monument. Reference station is center point of triangle on standard cement monument with top 5 inches above the surface of the ground.

References.—

	°	′	″	
"Alley" (N 2° 12′ W)	0	00	00	1¼ miles.
Reference Station	23	55	30	26.10 meters.
"Parsons Island Water Tank"	24	04	20	268 yards.
Near peak of house	35	13	..	400 yards.
Right corner of barn	61	27	..	382 yards.
Walnut tree	148	17	..	300 yards.
Cupola of left barn of Tilghmans Point farm	192	07	..	3½ miles.
Right tangent of Claiborne train shed	202	57	..	5 miles.
Right end of woods on Poplar Island	220	27	..	12 miles.
Left tangent of Kent Point	234	23	..	8¼ miles.
Left chimney of house	297	57	..	3 miles.
Side peak of 2½-story house	314	35	..	3⅛ miles.
Middle chimney of large brick house	336	44	..	1¼ miles.
"New Barn Cupola"	349	10	..	2¼ miles.

PARSONS ISLAND WATER TANK.

General locality.—Northern part of Eastern Bay between Crab Alley and Prospect bays on Parsons Island about half way between the north and south end of the island. (See Chart No. 32.)

Immediate locality.—Observed station is on a water tank on wooden structure near a house.

Marks.—Observed station is center of spindle on center of water tank.

References.—

None necessary.

NORMAN.

General locality.—Eastern shore of Crab Alley Bay on southwestern extremity of Crab Alley Neck about ¼ mile west of Normans Point, 2 miles northeast of Turkey Point, and ⅞ mile northwest of Parsons Island. (See chart No. 32.)

Immediate locality.—Observed station is in a cultivated field on a rapidly washing, narrow neck of land, about 6 feet above high water, 20 yards north of vertical bank at shore, 30 yards south of vertical bank at shore, and 40 yards northeast of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Parsons" (S 38° 40′ E)	0	00	00	.....	1⅛ miles.
Right tangent of Parsons Island	16	46	..	.....	1¼ miles.
Left tangent of woods on Tilghmans Point	30	30	..	.....	4 miles.
Left tangent of woods on Bodkin Island	68	28	..	.....	2 miles.
Right tangent of Bodkin Island	78	39	..	.....	2 miles.
Right tangent of woods on Turkey Point	93	17	..	.....	2 miles.
Nail in blaze in hackberry tree (6 inches diameter)	112	42	30	.....	22.49 meters.
Chimney of small house	154	22	..	.....	1¾ miles.
East chimney of house	167	41	..	.....	2¼ miles.
South gable of house	205	38	..	.....	1 mile.
West chimney of large brick house	271	53	..	.....	¼ mile.
Chimney of small house	292	22	..	.....	3 miles.
"Parsons Island Water Tank"	353	41	40	.....	1 mile.

ALLEY.

General locality.—Western shore of Prospect Bay on Crab Alley Neck, about ¾ mile north of Parsons Island, and ⅜ mile north of Narrows Point. (See Chart No. 32.)

Immediate locality.—Observed station is on hard ground in a marsh at northeast end of clump of 12 persimmon trees about 1 foot above high water and 75 yards southwest of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Dull" (N 2° 35′ W)	0	00	00	.....	⅞ mile.
Near peak of "Fishermans Inn"	6	48	..	.....	3 miles.
Nail in blaze in persimmon tree (4 inches diameter)	30	41	20	.....	3.99 meters.
Left chimney of old house with two dormer windows	48	29	..	.....	2⅜ miles.
Left peak of barn	79	42	..	.....	2¾ miles.
Left chimney of large house	113	34	..	.....	2¾ miles.
"Parsons Island Water Tank"	177	35	30	.....	1⅛ miles.
Nail in blaze in persimmon tree (3 inches diameter)	194	56	00	.....	4.88 meters.
Nail in blaze in persimmon tree (2½ inches diameter)	238	25	00	.....	3.70 meters.
East chimney of brick house	246	02	..	.....	½ mile.
Nail in blaze in persimmon tree (3 inches diameter	298	21	30	.....	3.29 meters.
Chimney of house among trees	317	54	..	.....	1½ miles.
"New Barn Cupola"	335	41	40	.....	1 mile.

BONNET.

General locality.—Eastern shore of Prospect Bay on Hood Point about 1½ miles southeast of Hog Island and ½ mile west of Piney Point. (See Chart No. 32.)

Immediate locality.—Observed station is on marsh ground about 1 foot above high water, 21 yards west of shore, 12 yards west of inlet, and 55 yards northeast of the extreme end of Hoods Point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"New Barn Cupola" (S 79° 29′ W)	0	00	00	1½ miles.
Chimney of house	24	11	..	1¼ miles.
East gable of barn	28	24	..	1¼ miles.
North chimney of house	64	04	..	2 miles.
South gable of barn	90	43	..	2⅜ miles.
Chimney on small house	137	57	..	⅝ mile.
West gable of house	199	06	..	1⅜ miles.
Chimney of small house	239	13	..	2½ miles.
Chimney of small house	258	39	..	4¾ miles.
South chimney of house on Kent Island	323	24	..	1¾ miles.
Cupola on barn	353	09	..	1¾ miles.

BRIAN REFERENCE STATION.

General locality.—Eastern shore of Prospect Bay on Brian Point, about 1 mile southeast of Piney Point, 2 miles northeast of Parsons Island, and ⅜ mile west of entrance to Hog Hole Creek. (See Chart No. 32.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 13 yards east of edge of marsh, 14 yards northwest of edge of marsh, 18 yards north of extreme end of point, and 40 yards southwest of a cultivated field.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″	
"Green" (S 8° 55′ E)	0	00	00	2¾ miles.
Left tangent of woods on Bennett Point	4	55	..	4 miles.
Right tangent of woods on Parsons Island	65	33	..	2¼ miles.
Middle chimney of large brick house	84	37	..	2¾ miles.
Cupola of barn	102	34	..	2¾ miles.
"New Barn Cupola"	109	56	20	2½ miles.
Left peak of large house	112	08	..	2⅝ miles.
Near peak of house	282	47	..	¼ mile.
Chimney of house	344	42	..	1¼ miles.

GREEN.

General locality.—Eastern shore of Prospect Bay on point at northern side of entrance to Greenwood Creek, about 3¼ miles northeast of Tilghmans Point, and 2¾ miles north of Bennett Point. (See Chart No. 32.)

Immediate locality.—Observed station is on a sanded marsh point about 2 feet above high water, 5 yards northwest of shore, 26 yards northeast of shore, 53 yards east by north of a point of shore, 37 yards southeast by east of a point of shore, and 105 yards south-southwest of a point of woods.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Benn" (S 0° 45′ W)	0	00	00	2¾ miles.
Cupola of barn	19	16	10	6 miles.
Right tangent of woods on Tilghmans Point	52	01	..	3⅜ miles.
"Parsons Island Water Tank"	115	03	50	2½ miles.
East chimney of brick house	124	42	..	3¼ miles.
Peak of small house	155	05	..	4 miles.
Chimney outside of house	165	43	..	4 miles.
Near peak of barn	178	20	..	3 miles.
Peak of house	235	45	..	1 mile.
Chimney of house behind barn	316	01	..	⅜ mile.
Square chimney of house	345	41	..	1½ miles.

BENN.

General locality.—Eastern shore of Miles River on Bennett Point at western side of entrance to Wye River. (See Chart No. 32.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 75 yards northeast of extreme end of point, 100 yards southwest from edge of wood, and in center of triangle formed by three pine stubs driven flush with marsh to support theodolite.

Marks.—Observed station is center point of triangle on standard cement monument projecting 1 foot above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Hough" (N 57° 41′ E)	0	00	00	⅜ mile.
Cupola of barn	70	45	..	1 mile.
"Rich Neck Water Tank"	203	33	..	3½ miles.
South chimney of house on Tilghmans Point Farm	215	59	..	3 miles.
"Parsons Island Water Tank"	271	55	..	4½ miles.
Right tangent of house	288	21	..	6⅝ miles.

HOUGH.

General locality.—Northwestern side of entrance to Wye River on a point about ⅜ mile northeast of Miles River and ½ mile southwest of north end of Bruffs Island. (See Chart No. 32.)

Immediate locality.—Observed station is on a grass point about 1 foot above high water, 16 yards north of shore, 22 yards south of shore, 15 yards west of extreme end of point, 11 yards east of small pool in marsh, and 200 yards east of woods.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Won" (N 9° 29′ E)	0	00	00	⅜ mile.
Near peak of building	7	22	..	2⅜ miles.
Right side of chimney of house	17	20	..	2⅞ miles.
Near peak of long barn	28	43	..	1¼ miles.
Piazza post of house in woods	62	14	..	½ mile.
Windmill	128	24	..	¾ mile.
Windmill	181	48	..	4¼ miles.
Tall, slender tree in woods	271	57	..	200 yards.
Black walnut tree	339	23	..	200 yards.

WON.

General locality.—Western shore of the branch of Wye River bounding Wye Island on the west about ½ mile northwest of northern end of Bruffs Island, and ¾ mile northeast of southern end of Bennett Point. (See Chart No. 32.)

Immediate locality.—Observed station is on small marsh point, about 1 foot above high water, 4 yards northwest of shore, 4 yards west of shore, 4 yards north of shore, and 40 yards southeast of large, lone, black walnut tree. Cement monument marking reference station is 22.80 meters S 15° 31′ W of observed station.

Marks.—Observed station is nail in center of 2-inch stub projecting 5 inches above 2-inch tile pipe with top flush with surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″		
"Nose" (N 28° 05′ E)	0	00	00	.....	½ mile.
Near peak of large barn	23	20	..	.....	⅞ mile.
Side peak of roof of house	25	18	..	.....	⅞ mile.
Near peak of house	47	26	..	.....	1⅛ miles.
Left large chimney of house in woods	81	08	..	.....	¾ mile.
Right corner of building on Bruffs Island	98	41	..	.....	½ mile.
Windmill	126	52	40	.....	1¼ miles.
Near peak of fisherman shanty	161	03	..	.....	100 yards.
REFERENCE STATION	167	25	50	.....	22.80 meters.
Nail in blaze in cedar tree (2 inches diameter)	210	23	00	.....	12.54 meters.
Nail in blaze in walnut tree (3 inches diameter)	262	30	10	.....	10.81 meters.
Nail in blaze in walnut tree (30 inches diameter)	290	06	10	.....	38.12 meters.
Right corner of right chimney of house	337	19	..	.....	½ mile.

NOSE.

General locality.—Western shore of the branch of Wye River bounding Wye Island on the west on a point about ⅝ mile north-northwest of Bruffs Island. (See Chart No. 32.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 4 yards southwest of shore, 6 yards north of shore, 14 yards west-northwest of extreme end of point, and 34 yards east of a row of locust trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Stop" (N 12° 09′ E)	0	00	00	.....	⅜ mile.
Church cross	1	55	..	.....	2 miles.
Chimney of cottage	3	03	..	.....	1⅜ miles.
Near peak of house	37	22	..	.....	⅝ mile.
Left peak of house	67	25	..	.....	½ mile.
Right corner of house on Bruffs Island	152	55	..	.....	¾ mile.
"St. Michaels P. E. Church Spire"	183	28	10	.....	5⅞ miles.
"St. Michaels Water Tank"	184	51	20	.....	5⅞ miles.
Nail in blaze in locust tree (8 inches diameter)	237	58	50	.....	34.45 meters.
Nail in blaze in locust tree (9 inches diameter)	256	32	10	.....	28.31 meters.
Near peak of large house between two chimneys	266	09	..	.....	¼ mile.
Nail in blaze in locust tree (7 inches diameter)	280	50	50	.....	31.44 meters.
Tangent of point	316	16	..	.....	100 yards.

SNOUT.

General locality.—On Wye Island on the eastern shore of the branch of Wye River, bounding Wye Island on the west about ¾ mile north of Bruffs Island and ½ mile north of Bordley Point. (See Chart No. 32.)

Immediate locality.—Observed station is in cultivated land about 12 feet above high water, 30 yards east by south of edge of bank, 65 yards south of large cherry tree in side of bank at fence, 65 yards southwest of rail fence, 70 yards northeast of a small clump of trees at edge of bank, and 400 yards west by north of a house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"South" (S 20° 34′ E)	0	00	00	½ mile.
Left peak of boat house	19	10	..	⅞ mile.
"St. Michaels P. E. Church Spire"	38	07	30	6¼ miles.
"St. Michaels Water Tank"	39	30	10	6⅛ miles.
Nail in blaze in locust tree (10 inches diameter)	49	21	30	64.78 meters.
Peak of house between two chimneys	99	02	..	½ mile.
Near peak of small house	111	45	..	½ mile.
Nail in blaze in tree (8 inches diameter)	179	42	10	34.39 meters.
Near peak of barn	186	34	..	1¼ miles.
Left corner of house	203	36	..	1⅜ miles.
Nail in blaze in fence post	246	50	10	63.29 meters.
Near peak of house	249	00	..	¾ mile.
Left peak of house	296	41	50	¼ mile.

SOUTH.

General locality.—On southwestern end of Wye Island on Bordley Point on the northern shore of the junction of the two branches of Wye River bounding Wye Island about ⅜ mile north-northeast of Bruffs Island. (See Chart No. 32.)

Immediate locality.—Observed station is in a pasture on a rounded point about 10 feet above high water, 11 yards northeast of edge of field, 13 yards north of edge of field, 22 yards northwest of edge of field, 30 yards southeast of cut in cliff, and 50 yards southwest of point of water bushes at gully.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Flat" (N 55° 27′ E)	0	00	00	½ mile.
Right chimney of house	19	30	..	1¼ miles.
Windmill	64	34	30	1¼ miles.
Spindle on barn cupola	134	55	20	1¼ miles.
Left chimney of house in woods	153	45	..	½ mile.
Left peak of building	173	45	..	4½ miles.
Peak between two chimneys of house	244	27	..	¾ mile.
Left chimney of house	317	37	..	⅜ mile.
Near peak of house	343	21	..	2 miles.

FLAT.

General locality.—On Wye Island on the northern shore of the branch of Wye River bounding Wye Island on the south on a point between two coves about 1 mile northeast of Bruffs Island and ½ mile northeast of Bordley Point. (See Chart No. 32.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 8 yards north of shore, 8 yards southwest of shore, 12 yards west of extreme end of point, 17 yards east of south end of line of several trees on edge of bank 3 feet high, and 45 yards east of a black gum tree 5 feet in diameter at ground.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Albert" (N 84° 31′ E)	0	00	00	½ mile.
Left corner of tower of house	30	33	..	1¼ miles.
Windmill	62	55	40	1⅛ miles.
Spindle on barn cupola	119	34	..	1⅝ miles.
Front peak of boat house	134	02	..	1 mile.
Left tangent of black gum tree	158	06	40	44 yards.
Near peak of house	249	34	..	¾ mile.
Spindle on cupola	351	11	10	¾ mile.
Windmill	352	15	30	¾ mile.
Near peak of Baldwin house	354	50	..	¾ mile.

ALBERT.

General locality.—On Wye Island on the northwestern shore of the branch of Wye River bounding Wye Island on the south on a point about 1¼ miles east-northeast of north end of Bruffs Island, and opposite entrance to Lloyd Creek. (See Chart No. 32.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 17 yards northwest of shore, 28 yards east of shore, 35 yards south of shore, and 75 yards north-northeast of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Le Seur" (N 1° 03′ E)	0	00	00	300 yards.
Baldwin windmill	65	11	40	⅜ mile.
Flagstaff on Baldwin boat house	67	59	..	400 yards.
Windmill on wooden tower	125	16	30	1 mile.
Peak of house with several chimneys	127	08	..	1 mile.
Chimney outside near end of old house	170	05	..	1 mile.
Front peak of boat house	231	10	..	1¼ miles.
Peak between two chimneys of house	269	40	..	1¾ miles.
Left peak of house	274	45	..	⅞ mile.
Peak of house	347	47	..	¾ mile.

LE SEUR.

General locality.—On Wye Island on the northwestern shore of the branch of Wye River bounding Wye Island on the south about ⅛ mile north of a prominent point opposite entrance to Lloyd Creek. (See Chart No. 32.)

Immediate locality.—Observed station is in a clump of small trees about 3 feet above high water, 11 yards east of shore, 12 yards southwest of shore on line to next point, and 12 yards north by east of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Attila" (N 31° 07′ E)	0	00	00	¼ mile.
Near peak of large barn	56	55	..	⅝ mile.
Spindle on cupola	61	52	50	¼ mile.
Right corner of chimney of Baldwin house	72	24	..	¼ mile.
Nail in blaze in walnut tree (4 inches diameter)	140	45	50	4.11 meters.
Nail in blaze in walnut tree (5 inches diameter)	201	19	40	7.60 meters.
Nail in blaze in walnut tree (3 inches diameter)	255	56	30	6.74 meters.
Nail in blaze in walnut tree (3 inches diameter)	304	08	10	7.27 meters.

ATTILA.

General locality.—On Wye Island on the northwestern shore of the branch of Wye River bounding Wye Island on the south about ¾ mile north of entrance to Lloyd Creek at north side of entrance to a small cove. (See Chart No. 32.)

Immediate locality.—Observed station is on slope of a point about 3 feet above high water, 10 yards west of shore, 10 yards north-northeast of shore, and 11 yards northwest of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Tobine" (N 15° 18′ E)	0	00	00	¼ mile.
Near peak of very large barn	97	30	..	⅜ mile.
Near peak of house	104	53	..	⅝ mile.
Spindle on cupola	128	31	50	¼ mile.
Left corner of Baldwin house	132	48	..	¼ mile.
Flagpole on wharf house	146	43	..	¼ mile.
Windmill	163	31	..	1¼ miles.
Nail in blaze in cedar stump (10 inches diameter)	197	07	20	8.36 meters.
Nail in blaze in cedar tree (8 inches diameter)	347	34	10	38.64 meters.

TOBINE.

General locality.—On Wye Island on the northwestern shore of the branch of Wye River bounding Wye Island on the south about ¾ mile north of entrance to Lloyd Creek on point at north side of entrance to a small cove. (See Chart No. 32.)

Immediate locality.—Observed station is on point of a cultivated field about 6 feet above high water, 4 yards north of edge of field, 4 yards southwest of edge of field, 5 yards west-northwest of point of field, and ¼ mile east-southeast of a barn with cupola.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Sang" (N 6° 21′ W)	0	00	00	¼ mile.
Right corner of house	16	19	..	⅝ mile.
Near peak of large barn	143	19	..	½ mile.
Cupola of Baldwin barn	173	35	10	½ mile.
Right peak of Baldwin house	175	17	..	½ mile.
Windmill	187	35	..	1½ miles.
Near peak of house	249	12	..	1⅛ miles.
Cupola of building	304	50	..	¼ mile.

SANG.

General locality.—On Wye Island on the northwestern shore of the branch of Wye River bounding Wye Island on the south about 1¼ miles north of entrance to Lloyd Creek and ⅝ mile west of entrance to Dividing Creek. (See Chart No. 32.)

Immediate locality.—Observed station is on bank about 12 feet above high water between two cuts in bank, 2 yards west of edge of bank, 3 yards northwest of edge of bank, 4 yards southwest of edge of bank, 32 yards from bottom of northern cut in bank, 52 yards from bottom of southern cut in bank, and 95 yards south-southwest of tree-lined gully.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Turn" (N 48° 08′ E)	0	00	00	¼ mile.
Tangent of woods	41	45	..	2 miles.
Tangent of point	56	52	..	⅜ mile.
Right peak of large barn	100	25	..	¾ mile.
Baldwin windmill	121	06	..	¾ mile.
Peak of near gable of Baldwin house	122	05	..	¾ mile.
Near peak of ell of house	199	14	..	⅜ mile.
Left corner of house	256	56	..	¼ mile.
Left peak of house	281	53	..	¼ mile.

TURN.

General locality.—On Wye Island on the northwestern shore of the branch of Wye River bounding Wye Island on the south about ½ mile west of entrance to Dividing Creek on point at western side of entrance to a small cove. (See Chart No. 32.)

Immediate locality.—Observed station is on bank in a cultivated field about 8 feet above high water, 5 yards northwest of edge of bank, 6 yards north of edge of bank, 7 yards west of edge of bank, 50 yards south-southwest of entrance to a small creek, and 55 yards east of a dead sycamore tree in field.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Go" (S 84° 55′ E)	0	00	00	⅛ mile.
Near peak of small house	32	18	..	1⅛ miles.
Right peak of large barn	67	07	..	¾ mile.
Baldwin windmill	85	55	..	⅞ mile.
Near peak of gable of Baldwin house	86	21	..	⅞ mile.
Nail in blaze in wild cherry tree (3 inches diameter)	128	20	10	23.08 meters.
Chimney outside, near end of house	179	44	..	⅜ mile.
Nail in blaze in locust tree (4 inches diameter)	255	50	00	18.85 meters.
Nail in blaze in chestnut stump with second growth (14 inches diameter)	279	53	10	12.93 meters.

GO.

General locality.—On Wye Island on the northern shore of the branch of Wye River bounding Wye Island on the south on a point between two coves about ¼ mile west of entrance to Dividing Creek. (See Chart No. 32.)

Immediate locality.—Observed station is on grassy beach at high water, about 2 yards south of foot of bank 4 feet high covered with dense growth of young trees, and 37 yards from entrance to a small creek. Cement monument marking reference station is 19.06 meters N 22° 35′ E of observed station.

Marks.—Observed station is nail in center of 2-inch pine stub projecting 2 inches above 2-inch tile pipe with top 2 inches below surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″	
"Divide" (N 89° 24′ E)	0	00	00	⅜ mile.
Near peak of shanty	48	16	..	⅞ mile.
Chimney of house	51	46	..	⅞ mile.
Peak of gable on Baldwin house	104	12	..	⅞ mile.
Baldwin windmill	104	13	30	⅞ mile.

References—Continued.	°	′	″		
Near corner of square chimney of house	159	10	..	.....	¾ mile.
Cupola on barn	164	20	..	.....	¾ mile.
Nail in blaze in gum tree (4 inches diameter).	249	05	50	.....	6.68 meters.
Nail in blaze in gum tree (2 inches diameter).	272	16	30	.....	5.73 meters.
REFERENCE STATION	293	11	20	.....	19.06 meters.
Nail in blaze in gum tree (4 inches diameter).	313	07	10	.....	4.15 meters.

DIVIDE.

General locality.—On Wye Island on the northern shore of the branch of Wye River bounding Wye Island on the south on point at eastern side of entrance to Dividing Creek. (See Chart No. 32.)

Immediate locality.—Observed station is in point of woods about 4 feet above high water, 2 yards west-northwest of edge of bank, 8 yards east-northeast of edge of bank, and 11 yards north-northeast of point of bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Princess" (N 53° 04′ E)	0	00	00	...	⅛ mile.
Right tangent of old wharf	12	44	..	.....	¾ mile.
Near peak of large barn	50	24	..	.....	1¾ miles.
Chimney of house	141	53	..	...	⅞ mile.
Baldwin windmill	162	18	30	.....	1 mile.
Right chimney of house	189	13	20	.....	2 miles.
Peak of house between two chimneys	195	40	..	.....	2⅝ miles.
Nail in blaze in oak tree (14 inches diameter).	232	30	30	.....	4.05 meters.
Nail in blaze in gnarled oak tree (8 inches diameter)	280	24	50	..	9.98 meters.
Nail in blaze in oak tree (30 inches diameter).	316	39	20	.....	8.41 meters.

PRINCESS.

General locality.—On Wye Island on the northern shore of the branch of Wye River bounding Wye Island on the south about ⅛ mile northeast of entrance to Dividing Creek and ⅜ mile west of entrance to Granary Creek. (See Chart No. 32.)

Immediate locality.—Observed station is in marsh land about 1 foot above high water, 4 yards north of shore, 18 yards east by north of a large oak tree at shore, 4 yards south of foot of bank 10 feet high covered with vegetation, and 10 yards west by south of a white oak tree on bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Philip" (S 83° 05′ E)	0	00	00	.....	⅜ mile.
Chimney of house on Pickerings Creek	15	16	..	.....	1¾ miles.
Right peak of large barn	110	22	..	.....	1 mile.
Baldwin windmill	121	01	..	.....	1¼ miles.
Cupola of Baldwin stable	121	40	..	.....	1¼ miles.
Nail in blaze in white oak tree (3 inches diameter)	163	26	00	.....	5.65 meters.
Nail in blaze in cedar tree (14 inches diameter)	255	36	20	.....	3.01 meters.
Right tangent of old wharf	351	19	..	.....	150 yards.

PHILIP.

General locality.—On Wye Island on the northern shore of the branch of Wye River bounding Wye Island on the south on western side of entrance to Granary Creek and ½ mile east of entrance to Dividing Creek. (See Chart No. 32.)

Immediate locality.—Observed station is about 1 foot above high water, 3 yards north of shore, 9 yards south-southwest of shore of creek, 9 yards west of extreme end of point, and 6 yards southeast of point of bank 4 feet high. Cement monument marking reference station is 4.62 meters N 18° 12′ E of observed station.

Marks.—Observed station is nail in center of 2-inch cedar stub projecting 2 inches above 2-inch tile pipe with top flush with surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—

	°	′	″	
"Granary" (S 63° 59′ E)	0	00	00	¼ mile.
Baldwin windmill	113	44	20	1⅜ miles.
Near peak of ell of house	141	49	..	1¼ miles.
Nail in blaze in cedar tree (3 inches diameter)	169	10	50	9.33 meters.
Nail in blaze in pine tree (6 inches diameter)	210	13	30	18.09 meters.
Nail in blaze in oak tree (7 inches diameter)	238	45	30	4.41 meters.
REFERENCE STATION	262	11	40	4.62 meters.
Tangent of point	321	20	..	¼ mile.
Near peak of large building	358	32	..	2 miles.

GRANARY.

General locality.—On Wye Island on the northern shore of the branch of Wye River bounding Wye Island on the south on point at eastern side of entrance to Granary Creek. (See Chart No. 32.)

Immediate locality.—Observed station is among water bushes on marsh land, about 1 foot above high water, 10 yards northeast of shore, 11 yards west of shore, 12 yards north by west of extreme end of point, and 50 yards from trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Morn" (N 89° 30′ E)	0	00	00	¼ mile.
Large chimney of building	24	48	..	1¼ miles.
Right tangent of point	85	34	..	¼ mile.
Left end of barn	176	08	..	1½ miles.
Left tangent of old wharf	199	54	..	¼ mile.

MORN.

General locality.—On Wye Island on the northern shore of the branch of Wye River bounding Wye Island on the south, about 300 yards east of entrance to Granary Creek and ¾ mile northwest of entrance to Pickerings Creek. (See Chart No. 32.)

Immediate locality.—Observed station is about 1 foot above high water, 4 yards northwest of shore, 4 yards northeast of shore, and 6 yards southeast of foot of wooded slope to field 12 feet above high water. Cement monument marking reference station is 3.82 meters N 33° 52′ W of observed station.

Marks.—Observed station is nail in center of 2-inch cedar stub projecting 2 inches above 2-inch tile pipe with top flush with surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2-inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″	
"Bush" (N 83° 20′ E)	0	00	00	¼ mile.
Tangent of point	4	01	..	¼ mile.
Near peak of building	32	42	..	1½ miles.
Tangent of foot of slope	56	33	..	¼ mile.
Right tree on point	120	06	..	¼ mile
Tangent of woods	182	21	..	⅝ mile.
Nail in blaze in locust tree (6 inches diameter)	202	15	50	2.49 meters.
Nail in blaze in cedar tree (4 inches diameter).	241	37	00	5.47 meters.
REFERENCE STATION	242	48	00	3.82 meters.
Nail in blaze in locust tree (7 inches diameter)	244	46	50	6.68 meters.

BUSH.

General locality.—On Wye Island on the northern shore of the branch of Wye River bounding Wye Island on the south on north side of entrance to a small cove, about ½ mile east of entrance to Granary Creek and ⅝ mile northwest of entrance to Pickerings Creek. (See Chart No. 32.).

Immediate locality.—Observed station is in cultivated land, about 7 feet above high water, 4 yards northeast of edge of bank, 9 yards northwest of point of curve of land, 22 yards west of tangent of land at tree, 30 yards west-northwest of scattering trees, and 50 yards northwest of a point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Nub" (S 83° 55′ E)	0	00	00	⅛ mile.
Tangent of point	46	27	..	¼ mile..
Largest cedar tree on point of high bank	96	41	..	¼ mile.
Nail in blaze in locust tree (2 inches diameter)	102	18	10	3.81 meters.
Tangent of point	166	18	..	¼ mile.
Nail in blaze in hackberry tree (5 inches diameter)	180	06	00	8.65 meters.
Nail in blaze in walnut tree (10 inches diameter)	348	25	20	20.04 meters.

NUB.

General locality.—On Wye Island on the northern shore of the branch of Wye River bounding Wye Island on the south on eastern side of entrance to a creek about ⅜ mile east of entrance to Granary Creek and ½ mile north of entrance to Pickerings Creek. (See Chart No. 32.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 2 yards east of shore, 20 yards southwest of shore, 45 yards west of shore, 20 yards south of extreme end of point, and 16 yards north-northwest of woods. Cement monument marking reference station is 15.10 meters N 83° 01′ E of observed station.

Marks.—Observed station is nail in center of 2-inch cedar stub set in 2-inch tile pipe with top flush with surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 5 inches above surface of ground.

References.—	°	′	″	
"Wheel" (S 4° 10′ E)	0	00	00	¼ mile.
Chimney on house	30	02	..	⅞ mile.
Largest cedar on point of high bank	47	16	..	⅜ mile.
Large oak tree	94	55	..	⅜ mile.
Large oak tree	143	43	..	⅛ mile.
Large oak tree	226	17	..	150 yards.
REFERENCE STATION	267	11	20	15.10 meters.
Nail in blaze in cedar tree (8 inches diameter).	296	57	30	16.81 meters.
Nail in blaze in oak tree (5 inches diameter)..	333	04	40	19.64 meters.
Nail in blaze in oak tree (4 inches diameter)..	349	37	20	20.87 meters.

WHEEL.

General locality.—On Wye Island on the northern shore of the branch of Wye River bounding Wye Island on the south on a point about ⅝ mile southeast by east of entrance to Granary Creek and ½ mile northwest of entrance to Pickerings Creek. (See Chart No. 32.)

Immediate locality.—Observed station is on marsh point south of woods, about 1 foot above high water, 2 yards east of shore, 4 yards southeast of point at slight cut in marsh, and 40 yards north of square point of shore. Cement monument marking reference station is 5.26 meters S 86° 47′ E of observed station.

Marks.—Observed station is nail in center of 2-inch cedar stub set in 2-inch tile pipe projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 5 inches above surface of ground.

References.—

	°	′	″	
"Pick" (S 12° 31′ E)	0	00	00	⅜ mile.
Left peak of building	0	04	..	⅞ mile.
Right tangent of woods	111	05	..	1 mile.
Large oak tree	129	21	..	½ mile.
Nail in blaze in oak tree (14 inches diameter)	219	10	40	21.66 meters.
Nail in blaze in oak tree (9 inches diameter)	230	46	50	18.74 meters.
Nail in blaze in cedar tree (6 inches diameter)	262	26	00	19.26 meters.
REFERENCE STATION	285	44	00	5.26 meters.
Left peak of large building	299	31	..	¾ mile.
Chimney showing over fence	308	54	..	¾ mile.
Right peak of large barn	359	34	..	⅞ mile.

PICK.

General locality.—Southern shore of the branch of Wye River bounding Wye Island on the south on western side of entrance to Pickerings Creek. (See Chart No. 32.)

Immediate locality.—Observed station is in cultivated land about 15 feet above high water, 25 yards southwest of edge of field at line of cedar trees, 22 yards west of gully, 40 yards south-southeast of a small clump of trees beyond small gully, and 300 yards east-southeast of fringe of cedar trees along edge of field northeast to east of gully.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Corner" (N 77° 40′ W)	0	00	00	¼ mile.
Nail in blaze in cherry tree (6 inches diameter)	42	54	00	36.64 meters.
Left peak of barn	58	21	..	1¼ miles.
Front peak of house	104	57	..	1⅛ miles.
Nail in blaze in cedar tree (6 inches diameter)	110	11	50	27.24 meters.
Nail in blaze in cedar tree (6 inches diameter)	134	46	00	26.37 meters.
Near peak of house	152	11	..	⅝ mile.
Nail in blaze in hackberry tree (5 inches diameter)	169	37	50	23.00 meters.
Left peak of large barn	243	36	..	¼ mile.
Right peak of house	314	37	..	¼ mile.

CORNER (Wye River).

General locality.—Southern shore of the branch of Wye River bounding Wye Island on the south about ¼ mile west of entrance to Pickerings Creek. (See Chart No. 32.)

Immediate locality.—Observed station is in cultivated land about 15 feet above high water, 50 yards southwest of edge of bank, 55 yards south of gully, 70 yards north-northwest of trees in depression, and 120 yards west of point of bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Right" (N 20° 45′ W)	0	00	00	¼ mile.
Nail in blaze in large elm tree	16	18	00	50.41 meters.
Near peak of building	18	21	..	1 mile.
Nail in blaze in one of twin elm trees	63	58	40	47.11 meters.
Near peak of house	101	49	..	1¼ miles.
Left peak of house with two chimneys	113	02	..	1½ miles.
Nail in blaze in oak tree (14 inches diameter)	162	16	00	61.44 meters.
Near peak of large barn	238	11	..	¾ mile.
Right corner of large house	275	51	..	1½ miles.
Chimney on middle of large house	280	01	..	1 mile.

RIGHT.

General locality.—Southern shore of the branch of Wye River bounding Wye Island on the south on a point about ½ mile soutneast of entrance to Granary Creek and ½ mile northwest of entrance to Pickerings Creek. (See Chart No. 32.)

Immediate locality.—Observed station is in tree-fringed cultivated land about 15 feet above high water, 7 yards south of edge of bank, 9 yards from point of bank at path, 15 yards northwest of edge of bank, and 120 yards east of fence in depression.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Chew" (N 71° 45′ W)	0	00	00	⅛ mile.
Left chimney of long house in woods	33	06	..	1 mile.
Nail in blaze in cedar tree (8 inches diameter)	76	18	00	8.25 meters.
Left one of two large chimneys showing over the trees	131	03	..	1 mile.
Left corner of building	168	32	..	1⅛ miles.
Nail in blaze in hickory tree (10 inches diameter)	182	29	40	10.80 meters.
Nail in blaze in elm tree (10 inches diameter)	243	35	00	29.80 meters.
Right peak of house	269	37	..	⅛ mile.
Windmill to right of two large cupolas	287	12	..	⅝ mile.

CHEW.

General locality.—Southern shore of the branch of Wye River bounding Wye Island on the south about ⅛ mile southeast of entrance to Granary Creek and ⅝ mile west-northwest of entrance to Pickerings Creek. (See Chart No. 32.)

Immediate locality.—Observed station is on marsh point about 1 foot above high water, 6 yards northeast of foot of bank 12 feet high, 12 yards west of point of shore, and 10 yards northwest of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Whale" (N 77° 32′ W)	0	00	00	.....	⅜ mile.
Large oak tree	72	58	..	.....	¼ mile.
Tangent of point	131	18	..	.....	⅜ mile.
Left end of building	138	38	..	.....	½ mile.
Near peak of building	175	22	..	.....	1¼ miles.
Near peak of large barn	179	07	..	.....	1 mile.
Nail in blaze in cedar tree (10 inches diameter)	284	33	..	.....	18. 19 meters.
Nail in blaze in cedar tree (6 inches diameter)	348	47	10	.....	9.57 meters.
Nail in blaze in cedar tree (5 inches diameter)	358	58	20	.....	21.82 meters.

WHALE.

General locality.—Southern shore of the branch of Wye River bounding Wye Island on the south on a point at western side of entrance to a small cove about ¼ mile south of entrance to Granary Creek. (See Chart No. 32.)

Immediate locality.—Observed station is on a sand-and-grass point about 2 feet above high water, 2 yards south-southeast of shore, 4 yards west-northwest of shore, 9 yards southwest of extreme end of point, and 7 yards east by north of foot of a terraced bank about 15 feet high.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Matter" (N. 77° 03′ W)	0	00	00	.....	½ mile.
Near peak of larger barn	52	33	..	.....	¾ mile.
Large oak tree	115	39	..	.....	¼ mile.
Near corner of building	175	40	..	.....	1¼ miles.
Near peak of large barn	178	45	..	.....	1½ miles.
Nail in blaze in cedar tree (10 inches diameter)	286	06	30	.....	9.40 meters.
Nail in blaze in cedar tree (7 inches diameter)	309	33	10	.....	5.50 meters.
Nail in blaze in cedar tree (5 inches diameter)	315	23	40	.....	9. 49 meters.

MATTER.

General locality.—Southern shore of the branch of Wye River bounding Wye Island on the south about ⅜ mile east-southeast of entrance to Dividing Creek and ⅜ mile west-southwest of entrance to Granary Creek. (See Chart No. 32.)

Immediate locality.—Observed station is on small grassy point about 1 foot above high water, 3 yards south of shore, and 2 yards north of foot of tree-fringed bank 5 feet high. Cement monument marking reference station is 8.58 meters S 0° 32′ E of observed station.

Marks.—Observed station is nail in center of 2-inch cedar stub set in 2-inch tile pipe with top flush with surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 5 inches above surface of ground.

References.—	°	′	″		
"Deck" (N 78° 05′ W)	0	00	00	.....	200 yards.
Left tangent of wharf	62	43	..	.....	¼ mile.
Near peak of large barn on Pickerings Creek	180	05	..	.....	1⅜ miles.
Nail in blaze in cedar tree (14 inches diameter)	204	10	50	.....	2.31 meters.
REFERENCE STATION	257	32	20	.....	8.58 meters.
Nail in blaze in one of twin cedar trees (8 inches diameter)	276	33	10	.....	3.72 meters.
Nail in blaze in cedar tree (8 inches diameter)	305	43	30	.....	2.42 meters.

DECK.

General locality.—Southern shore of the branch of Wye River bounding Wye Island on the south on a point about ½ mile southeast of entrance to Dividing Creek. (See Chart No. 32.)

Immediate locality.—Observed station is at edge of water bushes on a grass point about 1 foot above high water, 4 yards south of shore, 10 yards west of a round point, 20 yards east of shore, and 30 yards north of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Quarter" (S 38° 13′ W)	0	00	00	¼ mile.
Chimney of house	43	11	..	1¼ miles.
Tangent of point of land	74	32	..	¼ mile.
Left tangent of old wharf	149	46	..	400 yards.
South peak of large barn	170	41	..	¾ mile.
Tangent of point of land	206	49	..	500 yards.
Left cedar tree on point	243	41	..	200 yards.

QUARTER.

General locality.—Southern shore of the branch of Wye River bounding Wye Island on the south about ⅜ mile south-southeast of entrance to Dividing Creek and at east side of entrance to a cove. (See Chart No. 32.)

Immediate locality.—Observed station is on bank in a cultivated field about 12 feet above high water, 2 yards southeast of edge of bank, 100 yards south of trees and break in bluff, and 120 yards north of edge of bank at point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Nodim" (N 87° 45′ W)	0	00	00	½ mile.
Near peak of barn	1	18	..	1⅛ miles.
Chimney outside near end of house	10	34	..	1⅞ miles.
Near corner of barn	53	27	..	⅞ mile.
Right tangent of old wharf	112	25	..	⅝ mile.
Right peak of large barn	304	41	..	¾ mile.
Baldwin windmill	317	20	..	⅞ mile.
Near peak of house	354	43	..	1¼ miles.

NODIM.

General locality.—Southeastern shore of the branch of Wye River bounding Wye Island on the south about ⅜ mile southwest of entrance to Dividing Creek. (See Chart No. 32.)

Immediate locality.—Observed station is in cultivated land about 4 feet above high water, 4 yards south of shore, 8 yards southeast of shore, 25 yards southwest of shore of marsh, and 13 yards south of corner of marsh.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Gusta" (S 21° 08′ W)	0	00	00	⅛ mile.
Near peak of house	42	04	..	1⅜ miles.
Left peak of house	63	19	..	1 mile.
Chimney outside left end of house	134	07	..	⅝ mile.
Right corner of house	152	55	..	¾ mile.
Right tangent of wharf	220	29	..	¼ mile.
Baldwin windmill	354	18	..	⅝ mile.

GUSTA.

General locality.—Southeastern shore of the branch of Wye River bounding Wye Island on the south about ⅞ mile north-northeast of entrance to Lloyd Creek. (See Chart No. 32.)

Immediate locality.—Observed station is in a cultivated field about 10 feet above high water, 8 yards east of edge of bank, 12 yards southeast of edge of bank, 17 yards northeast of edge of bank, 35 yards north-northeast of a depression, and 65 yards southwest of end of cut in bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Sylvia" (S 22° 57′ W)	0	00	00	.....	⅛ mile.
Left tangent of house on Bruffs Island	26	06	..	.....	2 miles.
Left chimney of house	45	15	..	.....	1⅜ miles.
Peak between two chimneys of house	51	42	..	.....	2 miles.
Right peak of house	80	53	..	.....	1 mile.
Cupola of barn	88	46	..	.....	⅝ mile.
Left corner of house	155	40	..	.....	¾ mile.
Right peak of large barn	312	09	..	.....	⅜ mile.
Baldwin windmill	350	13	..	.....	⅜ mile.

SYLVIA.

General locality.—Southeastern shore of the branch of Wye River bounding Wye Island on the south on second prominent point north of entrance to Lloyd Creek. (See Chart No. 32.)

Immediate locality.—Observed station is in a cultivated field about 10 feet above high water, 11 yards east by south of edge of bluff, 22 yards northeast of lone locust tree 2 feet in diameter at the edge of the bank, and 400 yards northwest of a large barn.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	.....	
"Baldwins" (S 27° 13′ W)	0	00	00	.....	¼ mile.
Nail in blaze in locust tree (24 inches diameter)	24	12	20	.....	19.90 meters.
Very large lone tree	40	21	..	.....	22 yards.
Nail in blaze in locust tree (6 inches diameter)	53	42	20	.....	13.37 meters.
Left peak of barn	73	23	..	.....	⅝ mile.
Cupola of building	106	19	..	.....	⅝ mile.
Near peak of large house	156	37	..	.....	1 mile.
Near peak of large barn	273	21	..	.....	⅜ mile.
Baldwin windmill	334	37	..	.....	¼ mile.
Peak of near gable of Baldwin house	336	06	..	.....	¼ mile.
Spindle on cupola	336	51	..	.....	¼ mile.

BALDWINS.

General locality.—Southeastern shore of the branch of Wye River, bounding Wye Island on the south on a point about ⅜ mile north of entrance to Lloyd Creek. (See Chart No. 32.)

Immediate locality.—Observed station is on a short, sharp point of marsh about 100 yards north of a yacht landing, 7 yards northeast of shore, 10 yards southeast of shore, 12 yards east of extreme end of point, and 8 yards west of foot of bank 8 feet high.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Cousin" (S 25° 13′ E)	0	00	00	.....	¼ mile.
Flagstaff on yacht-landing house	11	27	..	.....	100 yards.
Windmill	27	44	..	.....	1⅛ miles.
Left peak of bell cupola	27	55	..	.....	1⅛ miles.
Spindle on barn cupola	62	53	..	.....	2 miles.
Front peak of boathouse on Bruffs Island	77	51	..	.....	1½ miles.
Near corner of left chimney of house	111	37	..	.....	¾ mile.
Near peak of barn with cupola	175	20	..	.....	⅝ mile.
Near peak of barn	215	40	..	.....	1 mile.
Nail in blaze in cedar tree (6 inches diameter)	248	50	50	.....	7.91 meters.
Nail in blaze in locust tree (5 inches diameter)	311	47	20	.....	5.36 meters.
Nail in blaze in locust tree (4 inches diameter)	324	04	50	.....	13.45 meters.

COUSIN.

General locality.—Southeastern shore of the branch of Wye River bounding Wye Island on the south, about 1½ miles east-northeast of north end of Bruffs Island and at northern side of entrance to Lloyd Creek. (See Chart No. 32.)

Immediate locality.—Observed station is in a pasture about 9 feet above high water, 25 yards east of edge of bank, 65 yards south-southeast of a small clump of trees in bottom land, 65 yards north of trees, 60 yards north of edge of a field, and 200 yards south of a house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Lloyd" (S 36° 07′ W)	0	00	00	.....	¼ mile.
Spindle on barn cupola	8	04	50	.....	2 miles.
Front peak of boathouse	26	05	..	.....	1½ miles.
Left peak of house	63	13	..	.....	1⅛ miles.
Chimney of house	91	31	..	.....	¾ mile.
Peak of near gable of Baldwin house	135	42	..	.....	200 yards.
Windmill on large barn	187	08	..	.....	¼ mile.
Right peak of house	209	44	..	.....	350 yards.
Left peak of bell cupola	333	34	..	.....	1 mile.
Windmill	334	19	.	.....	1 mile.

LLOYD.

General locality.—Southern shore of the branch of East Wye River bounding Wye Island on the south, at western side of entrance to Lloyd Creek. (See Chart No. 32.)

Immediate locality.—Observed station is in cultivated land about 12 feet above high water, 70 yards southwest of edge of bank, 65 yards south of edge of bank, 65 yards north-northeast of point of woods and bottom land, and 120 yards northwest of an oak tree.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Edwards" (N 84° 02′ W)	0	00	00	.....	⅜ mile.
Near peak of house	32	43	..	.....	1 mile.
Left peak of barn	52	18	..	.....	1⅛ miles.
Near peak of house	76	14	..	.....	⅞ mile.
Peak of near gable of Baldwin house	109	28	..	.....	¾ mile.
Near peak of barn	122	59	..	.....	⅞ mile.
Right peak of large house	132	01	..	.....	1 mile.
Large oak tree	208	57	30	.....	120 yards.

EDWARD.

General locality.—Southern shore of the branch of Wye River bounding Wye Island on the south on a point at eastern side of entrance to Shaw Bay, about ¾ mile east-northeast of north end of Bruffs Island and ⅜ mile west of entrance to Lloyd Creek. (See Chart No. 32.)

Immediate locality.—Observed station is in cultivated land about 8 feet above high water, 8 yards southeast of edge of a bluff which is washing away, and 30 yards southwest of a line of large trees at edge of bank and field.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Colonel" (S 0° 10′ W)	0	00	00	½ mile.
Windmill	33	28	20	1¼ miles.
Front peak of boathouse	64	02	..	¾ mile.
Peak between two chimneys of house	114	10	..	1⅜ miles.
Near peak of house	146	12	..	⅞ mile.
Chimney of house	170	06	..	1¼ miles.
Nail in blaze in walnut tree (13 inches diameter)	201	56	40	26.40 meters.
Nail in blaze in locust tree (4 inches diameter)	216	09	10	26.95 meters.
Nail in blaze in locust tree (10 inches diameter)	235	55	40	31.55 meters.
Windmill	309	41	00	⅞ mile.

COLONEL.

General locality.—Southern shore of Shaw Bay on a point at entrance to a small cove about ¼ mile from the branch of Wye River bounding Wye Island on the south and ⅝ mile east of Bruffs Island. (See Chart No. 32.)

Immediate locality.—Observed station is in a field about 10 feet above high water, 6 yards southeast of edge of bank which is washing away, 9 yards south-southwest of point of bank, and 3 yards west of top of bank lined with cedar, walnut, and oak trees. Cement monument marking reference station is 18.69 meters S 24° 06′ E of observed station.

Marks.—Observed station is nail in center of 2-inch stub projecting 4 inches above 2-inch tile pipe with top flush with surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—

	°	′	″	
"Shaw" (N 68° 12′ W)	0	00	00	¾ mile.
Peak of roof between two chimneys of house	19	29	..	1⅝ miles.
Near peak of house	48	21	..	1⅛ miles.
Peak of near gable of house	100	57	..	1¼ miles.
Nail in blaze in oak tree (20 inches diameter)	110	47	00	5.21 meters.
Nail in blaze in oak tree (6 inches diameter)	183	33	40	6.46 meters.
Nail in blaze in oak tree (7 inches diameter)	213	01	40	13.45 meters.
Reference Station	224	05	50	18.69 meters.
Near corner of house on Bruffs Island	355	07	..	¾ mile.

SHAW.

General locality.—Southern shore of entrance to the branch of Wye River bounding Wye Island on the south on northern end of Bruffs Island about ⅜ mile southwest of Bordley Point. (See Chart No. 32.)

Immediate locality.—Observed station is in walnut, pine, and cedar woods, about 15 feet above high water, 7 yards southwest of edge of bank, and 100 yards north-northwest of a house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Won" (N 69° 43′ W)	0	00	00	½ mile.
Peak of house between two chimneys	39	56	..	⅞ mile.
Chimney on right end of house	77	44	..	1¾ miles.
Near peak of large barn	88	54	..	1½ miles.
Near peak of house	137	02	..	1⅝ miles.
Chimney of house	174	08	..	1¼ miles.
Right corner of left plazza post	234	04	10	100 yards.
Nail in blaze in walnut tree (28 inches diameter)	235	00	00	29.32 meters.
Nail in blaze in walnut tree (24 inches diameter)	268	35	20	24.30 meters.
Nail in blaze in walnut tree (15 inches diameter)	291	48	10	15.98 meters.

BRUFFS.

General locality.—Eastern shore of Wye River on northwest point of Bruffs Island about ⅞ mile northeast of Bennett Point and ½ mile southwest of Bordley Point. (See Chart No. 32.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 10 yards east of shore, 14 yards southwest of shore, 20 yards southeast of point of marsh, and 18 yards west of point of woods.

Marks.—Observed station is center point of triangle on standard cement monument projecting 7 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Law" (S 2° 07′ W)	0	00	00	½ mile.
"St. Michaels P. E. Church Spire"	17	35	20	5⅜ miles.
"St. Michaels Water Tank"	17	50	20	5¼ miles.
Cupola of barn	38	15	00	4⅛ miles.
Near peak of large barn	54	30	..	3¾ miles.
Large walnut tree	118	55	..	½ mile.
Peak between two chimneys of house	156	15	..	⅞ mile.
Near corner of house	184	29	..	2⅛ miles.
Right peak of house	208	24	..	⅞ mile.
Nail in blaze in tree (4 inches diameter)	257	20	30	17.38 meters.
Nail in blaze in walnut tree (3 inches diameter)	278	43	50	27.96 meters.
Nail in blaze in cedar tree (4 inches diameter)	310	49	30	41.27 meters.
Smokepipe of building in woods	314	28	..	200 yards.

LAW.

General locality.—Southeastern shore of Wye River about ¾ mile east of Bennett Point and ⅛ mile southwest of south end of Bruffs Island. (See Chart No. 32.)

Immediate locality.—Observed station is in cultivated land about 15 feet above high water, 8 yards southeast of edge of a bluff, 45 yards southwest of a wire fence, 100 yards northeast of a clump of trees, and 150 yards northwest of a black walnut tree at edge of field.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"James" (S 36° 41′ W)	0	00	00	.....	¼ mile.
"Rich Neck Water Tower"	47	20	10	.....	4⅛ miles.
Chimney of house on Tilghmans Point Farm	57	48	..	.....	3¾ miles.
Cupola of right barn	58	51	..	.....	3¾ miles.
Near peak of large barn	128	41	..	.....	1¼ miles.
Right corner of building in woods	169	31	..	.....	⅜ mile.
Nail in blaze in cedar tree (4 inches diameter)	182	21	50	.....	38.67 meters.
Left peak of house	199	10	..	.....	2 miles.
Nail in blaze in black walnut tree (7 inches diameter)	206	30	30	.....	45.23 meters.
Nail in blaze in cedar tree (4 inches diameter)	224	40	40	.....	59.90 meters.
Black walnut tree (18 inches diameter)	284	14	..	.....	150 yards.
Right corner of barn	297	53	..	.....	¼ mile.
Large cedar tree	338	23	..	.....	100 yards.

JAMES (MILES RIVER).

General locality.—Eastern shore of Miles River at southern side of entrance to Wye River, about ⅝ mile southwest of Bruffs Island and ⅝ mile southeast of Bennett Point. (See Chart No. 32.)

Immediate locality.—Observed station is in a cultivated field about 20 feet above high water, 17 yards east of edge of a bluff at shore, and 14 yards south of edge of a bluff 18 feet high, with uniform slope to shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Frank" (S 3° 18′ W)	0	00	00	.....	¼ mile.
"St. Michaels P. E. Church Spire"	15	09	..	.....	4½ miles.
"St. Michaels Water Tank"	17	06	..	.....	4⅜ miles.
South chimney of house	63	16	..	.....	4 miles.
South chimney of house on Tilghmans Point farm	97	14	..	.....	3½ miles.
Right tangent of Tilghmans Point	109	08	..	.....	3¼ miles.
Chimney of small cabin	174	03	..	.....	1⅜ miles.
West gable of barn	190	22	..	.....	2¾ miles.
Cupola of barn	297	26	..	.....	⅝ mile.

FRANK.

General locality.—Eastern shore of Miles River about ½ mile south of entrance to Wye River and 1 mile northeast of Herring Island. (See Chart No. 32.)

Immediate locality.—Observed station is in cultivated field about 18 feet above high water, 8 yards east of a bluff washed by high water, and 125 yards south of a ditch. Cement monument marking reference station is 25.51 meters S 87° 47′ E of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″		
"Wood" (S 12° 55′ E)	0	00	00	.....	¼ mile.
"St. Michaels P. E. Church Spire"	32	13	..	.....	4¼ miles.
"St. Michaels Water Tank"	34	18	..	.....	4⅛ miles.
East gable of barn	59	33	..	.....	3 miles.

References—Continued.	°	′	″		
"Rich Neck Water Tank"	105	14	..	.....	3⅞ miles.
South chimney of house on Tilghmans Point farm	117	24	..	.....	3½ miles.
Right tangent of Tilghmans Point	129	22	..	.....	3¼ miles.
South gable of small house	185	22	..	.....	1¼ miles.
REFERENCE STATION	285	08	10	.....	25.51 meters.
Cupola on barn	289	06	..	.....	⅜ mile.
East chimney of house	335	53	..	.....	1⅛ miles.

WOOD.

General locality.—Eastern shore of Miles River about 1¼ miles southeast of Bennett Point, 1¼ miles east-northeast of Herring Island and ⅝ mile north-northwest of entrance to Woodland Creek. (See Chart No. 32.)

Immediate locality.—Observed station is in a cultivated field about 18 feet above high water, 18 yards east of shore and top of vertical bank 18 feet high, and 3 yards south of a wire fence.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Pearson" (N 65° 24′ W)	0	00	00	.....	3¼ miles.
Right tangent of Tilghmans Point	5	29	..	.....	3½ miles.
Left tangent of marsh on Bennett Point	36	49	..	.....	1⅛ miles.
West gable of barn	127	56	..	.....	½ mile.
"St. Michaels P. E. Church Spire"	266	53	..	.....	4 miles.
"St. Michaels Water Tank"	269	09	..	.....	3⅞ miles.
North chimney of house	321	42	..	.....	3 miles.
South chimney of house on Tilghmans Point farm	353	51	..	.....	3⅝ miles.

HERR.

General locality.—In Miles River on Herring Island, about 1¼ miles southwest of entrance to Wye River. (See Chart No. 32.)

Immediate locality.—Observed station is on sandy ground in the center of Herring Island, about 2 feet above high water, 30 yards northeast of shore, and 30 yards southwest of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Rich Neck Water Tank" (N 77° 26′ W)	0	00	00	.....	3 miles.
North chimney of house on Tilghmans Point. farm	16	28	..	.....	2⅞ miles.
Right tangent of Tilghmans Point	31	07	..	.....	2⅞ miles.
South gable of barn	81	37	..	.....	7 miles.
North chimney of small house	108	59	..	.....	2¾ miles.
Cupola of barn	149	17	..	.....	1½ miles.
North gable of barn	198	40	..	.....	1¾ miles.
East gable of barn	209	40	..	.....	3 miles.
Left chimney of Seth house	333	42	..	.....	2 miles.
North chimney of house	345	25	..	.....	2⅜ miles.

OLLIE.

General locality.—Eastern shore of Miles River about 1 mile north of entrance to Leeds Creek, and ¾ mile northeast of Deep Water Point. (See Chart No. 32.)

Immediate locality.—Observed station is in woods about 8 feet above high water, 6 yards west of edge of bank which is washing rapidly, and 8 yards northeast of large pine tree at edge of bank. Cement monument marking reference station is 14.42 meters N 74° 15′ W of observed station.

Marks.—Observed station is center of 2-inch tile pipe with top flush with surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of the ground.

References.—	°	′	″	
"Swing" (S 1° 20′ W)	0	00	00	¾ mile.
Nail in blaze in pine tree (3 feet diameter)	25	56	00	7.62 meters.
"St. Michaels Water Tank"	37	58	20	2¼ miles.
Weather vane on house on Deep Water Point farm	57	10	..	1 mile.
Near peak of house	91	55	..	1⅝ miles.
Chimney of house on Tilghmans Point farm	130	38	..	4½ miles.
Right tangent on Tilghmans Point	140	03	..	4½ miles.
"Parsons Island Water Tank"	157	19	40	7¼ miles.
Left tangent of main woods on Bennett Point	172	00	..	3 miles.
Chimney on right end of house in woods	180	00	..	4 miles.
Nail in blaze in pine tree (8 inches diameter)	240	27	..	10.56 meters.
REFERENCE STATION	284	24	40	14.42 meters.
Nail in blaze in pine tree (7 inches diameter)	285	22	10	10.55 meters.
Nail in blaze in pine tree (7 inches diameter)	316	39	..	12.52 meters.

SWING.

General locality.—Eastern shore of Miles River about ¼ mile northwest of entrance to Leeds Creek. (See Chart No. 32.)

Immediate locality.—Observed station is on marsh land between river and small pond about 4 yards east of shore, 18 yards west of pond, 100 yards south of point of woods, and 100 yards northwest of another point of woods. Cement monument marking reference station is 54.35 meters N 62° 04′ E of observed station.

Marks.—Observed station is center of 2-inch tile pipe with top flush with surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 5 inches above surface of ground.

References.—	°	′	″	
"Fair" (S 35° 08′ E)	0	00	00	¼ mile.
Between two chimneys of large house	14	25	..	2½ miles.
Right one of two dormer windows on old house	29	54	..	
Peak between two chimneys of Mulligan house	45	39	..	1¾ miles.
"St. Michaels P. E. Church Spire"	83	50	20	1¾ miles.
"St. Michaels Water Tank"	90	00	50	1¾ miles.
Square chimney of large house	114	25	..	1¼ miles.
Weather vane on house on Deep Water Point farm	141	42	..	¾ mile.
Chimney on house on Tilghmans Point farm	173	38	..	5 miles.
Tangent of Tilghmans Point	181	51	..	5⅛ miles.
REFERENCE STATION	277	12	30	54.35 meters.

FAIR.

General locality.—Eastern shore of Miles River on Fairview Point at northwestern side of entrance to Leeds Creek. (See Chart No. 32.)

Immediate locality.—Observed station is about 2 feet above high water, 9 yards northeast of shore, 16 yards northwest of shore, and 13 yards north of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Second" (N 36° 37′ E)	0	00	00	¼ mile.
West peak of Oliver house	8	01	..	1 mile.
Peak of tower on Norris house	19	05	..	¾ mile.
Corner post of porch of Rieman house	86	51	..	⅜ mile.
Near peak of gable on house at Pebbly Beach	125	46	..	3¼ miles.
Large tree near several buildings in yard	152	40	..	1⅝ miles.
North peak of large house	160	30	..	1⅝ miles.
West chimney of house	181	37	..	1⅜ miles.
"St. Michaels Water Tank"	207	14	50	1¾ miles.
Weather vane on square tower of house on Deep Water Point farm	258	58	..	1 mile.
Nail in blaze in cedar tree (10 inches diameter)	286	52	40	17.37 meters.
Nail in blaze in cedar tree (14 inches diameter)	296	47	30	11.15 meters.
Nail in blaze in cedar tree	334	59	10	15.48 meters.

SECOND.

General locality.—Northwestern shore of Leeds Creek about ¼ mile northeast of Miles River. (See Chart No. 32.)

Immediate locality.—Observed station is on small marsh point just east of cedar woods about 1 foot above high water, 5 yards west of shore, 13 yards north of shore, and 25 yards south of bend in shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe, buried with top 2 inches below base of monument.

References.—

	°	′	″	
"But" (N 15° 49′ E)	0	00	00	⅜ mile.
South peak of barn	7	50	..	1 mile.
Near corner of house	24	19	..	1¼ miles.
Brick smokestack at Tunis Mills	32	27	..	2⅛ miles.
Spindle on tower of house	46	46	..	⅝ mile.
Northeast peak of large building	60	02	..	⅝ mile.
Cupola on barn	141	11	..	½ mile.
Nail in blaze in cedar tree (7 inches diameter)	222	10	10	9.31 meters.
Nail in blaze in cedar tree (8 inches diameter)	249	34	40	5.78 meters.
Nail in blaze in cedar tree (10 inches diameter)	281	50	10	6.57 meters.

BUT.

General locality.—Northwestern shore of Leeds Creek, about ⅝ mile north of Miles River, and at northeastern side of entrance to a small cove. (See Chart No. 32.)

Immediate locality.—Observed station is on a small marsh point, about 1 foot above high water, 11 yards south-southwest of shore, 8 yards west of point of shore, 7 yards north of shore, 7 yards east of pasture land, 100 yards southwest of a clump of trees, and 6 yards from a line of cedar trees extending north and south.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Aber" (N 54° 17′ E)	0	00	00	¼ mile.
Right corner of large brick house	25	51	..	¾ mile.
Spindle on tower of house	45	52	..	½ mile.
Right peak of house with two chimneys	93	38	..	½ mile.
Right corner of Rieman house	119	04	..	⅞ mile.
Nail in blaze in cedar tree (4 inches diameter)	190	15	50	9.17 meters.
Nail in blaze in hackberry tree (3 inches diameter)	211	46	00	8.93 meters.
Nail in blaze in water bush (3 inches diameter)	264	34	30	5.42 meters.
Chimney of house	305	01	..	¼ mile.
South peak of large barn	336	35	..	⅜ mile.

ABER.

General locality.—Northwestern shore of Leeds Creek, about ¾ mile northeast of Miles River, on point at western side of entrance to a small cove. (See Chart No. 32.)

Immediate locality.—Observed station is on a point covered with cedar trees, about 2 feet above high water, 8 yards southwest of shore, 9 yards north of shore, and 9 yards northwest of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Two" (N 52° 56′ E)	0	00	00	¼ mile.
Near peak of barn cupola	34	49	..	¾ mile.
Right corner of large brick house	39	47	..	½ mile.
Spindle on tower of house	81	41	..	⅜ mile.
Weather vane on water tank	113	43	..	1¼ miles.
Nail in blaze in cedar tree (8 inches diameter)	219	11	50	2.27 meters.
Nail in blaze in cedar tree (4 inches diameter)	242	01	40	7.90 meters.
Nail in blaze in cedar tree (17 inches diameter)	275	09	10	16.97 meters.
South peak of large barn	308	20	..	¼ mile.

TWO.

General locality.—Northwestern shore of Leeds Creek on a point, about 1 mile northeast of Miles River, and at southern side of entrance to a small cove. (See Chart No. 32.)

Immediate locality.—Observed station is on marsh point about 1 foot above high water, 5 yards west of shore, 6 yards northeast of shore, 7 yards north of extreme end of point, and 25 yards southeast of woods.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Face" (S 51° 58′ E)	0	00	00	.....	¼ mile.
Right peak of barn cupola	30	37	..	.....	½ mile.
Peak of tower on house	45	25	..	.....	⅜ mile.
Nail in blaze in water bush (2 inches diameter)	149	46	00	.....	6.23 meters.
Nail in blaze in water bush (2 inches diameter)	206	15	00	.....	3.02 meters.
Nail in blaze in water bush (2½ inches diameter)	228	32	50	.....	4.53 meters.
Left peak of large barn	277	05	..	.....	⅜ mile.
Cupola on large house	301	00	..	.....	1¼ miles.
Near peak of building	317	34	..	.....	¾ mile.
Left corner of large brick house	348	31	..	.....	⅜ mile.

FACE.

General locality.—Southeastern shore of Leeds Creek, about 1 mile northeast of Miles River, and near northeastern side of entrance to a small cove. (See Chart No. 32.)

Immediate locality.—Observed station is in a field about 5 feet above high water, 130 yards east of bank, 150 yards south of bank, 300 yards west-northwest of large brick house, and 110 yards north-northwest of two very large cedar trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Mais" (S 38° 30′ W)	0	00	00	.....	¼ mile.
Tangent of woods	8	57	..	.....	1 mile.
Left corner of house	81	46	..	.....	⅜ mile.
Right one of three large cedar trees	107	49	..	.....	111 yards.
Near peak of house	168	33	..	.....	½ mile.
Brick smokestack at Tunis Mills	188	18	40	.....	1⅛ miles.
West peak of large barn	233	34	..	.....	400 yards.
Right corner of large brick house	250	38	..	.....	300 yards.
Left peak of barn cupola	314	32	..	.....	¼ mile.
Spindle on tower of house	342	36	..	.....	⅜ mile.

MAIS.

General locality.—Southeastern shore of Leeds Creek about ¾ mile northeast of Miles River and near point at southwestern side of entrance to a small cove. (See Chart No. 32.)

Immediate locality.—Observed station is in western corner of an orchard about 3 feet above high water, 10 yards southeast of top of bank, and 140 yards northwest of a large house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Beak" (S 40° 55′ W)	0	00	00	.....	¼ mile.
Nail in blaze in apple tree (6 inches diameter)	25	09	40	.....	4.78 meters.
South peak of large barn	115	22	..	.....	⅜ mile.
Nail in blaze in apple tree (6 inches diameter)	155	59	30	.....	8.19 meters.
Nail in blaze in apple tree (5 inches diameter)	244	28	30	.....	3.72 meters.
Spindle on tower of house	264	56	30	.....	137 yards.
Nail in blaze in poplar tree (8 inches diameter)	302	00	30	.....	14.08 meters.
Weather vane on water tank	313	52	30	.....	¾ mile.

BEAK.

General locality.—Southeastern shore of Leeds Creek about ½ mile northeast of Miles River at southwestern side of entrance to a small cove. (See Chart No. 32.)

Immediate locality.—Observed station is near edge of pasture land about 3 feet above high water, 6 yards southwest of edge of bank, 12 yards south of point of bank, 10 yards southeast of edge of bank, 60 yards west of a small cove, and 25 yards northeast of a line of five poplar trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Rieman" (S 35° 51′ W)	0	00	00	¼ mile.
Cupola on St. Michaels primary school	18	43	..	2¼ miles.
Nail in blaze in poplar tree (6 inches diameter)	118	53	20	7.70 meters.
Weather vane on water tank	123	17	..	1 mile.
South peak of large barn	145	12	..	¾ mile.
Nail in blaze in hackberry tree (5 inches diameter)	190	23	20	7.77 meters.
Spindle on tower of house	200	49	..	¼ mile.
Southwest peak of large building	227	41	..	⅝ mile.
Nail in blaze in cedar tree (4 inches diameter)	241	19	50	13.42 meters.
Weather vane on tower	302	55	..	1½ miles.

RIEMAN.

General locality.—Southeastern shore of Leeds Creek about ¼ mile northeast of Miles River. (See Chart No. 32.)

Immediate locality.—Observed station is on small marsh point about 1 foot above high water, 3 yards south of shore, 3 yards northeast of shore, 6 yards east-southeast of extreme end of point, 12 yards west of large cedar tree on point 2 feet higher than station, and 13 yards west-southwest of two large cedar trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Leeds" (S 11° 28′ W)	0	00	00	¼ mile.
"St. Michaels P. E. Church Spire"	48	11	30	2 miles.
"St. Michaels Water Tank"	53	23	40	2 miles.
Left piazza post of Fogg cottage	57	38	..	1½ miles.
Left corner of chimney	157	41	..	¾ mile.
Near corner of house	201	57	..	1¼ miles.
Right corner of house	215	58	..	¾ mile.
Nail in blaze in cedar tree (20 inches diameter)	246	12	00	11.31 meters.
Nail in blaze in cedar tree (8 inches diameter)	274	45	10	16.86 meters.
Left corner of Rieman house	340	27	..	¼ mile.

LEEDS.

General locality.—Eastern shore of Miles River at southern side of entrance to Leeds Creek. (See Chart No. 32.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, 11 yards southeast of shore, 23 yards northeast of shore, 27 yards east-northeast of extreme end of point, and 200 yards west-northwest of a large house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Stony" (S 13° 40′ W)	0	00	00	1½ miles.
Near peak of large house	13	07	..	1½ miles.
Cupola on schoolhouse	49	19	..	1⅞ miles.
"St. Michaels Water Tank"	57	40	20	1⅞ miles.
Weather vane on Dodson house	103	40	..	1¼ miles.
Chimney of small house	166	12	..	⅞ mile.
Near peak of Rieman house	287	07	..	⅛ mile.
Tangent of point	347	12	..	27 yards.

JOHNSON.

General locality.—Northwestern shore of Miles River on a point about ¾ mile west-southwest of Miles River Bridge. (See Charts Nos. 32 and 34.)

Immediate locality.—Observed station is on a lawn about 10 feet above high water, 3 yards north-northwest of top of bank, 60 yards northeast of cedar tree 20 inches in diameter in clump of six cedar trees near boat landing, and 74 meters southeast of a house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Lowndes" (N 72° 02′ E)	0	00	00	⅛ mile.
Windmill on tower	11	40	..	⅞ mile.
Left corner of large chimney outside of house	35	09	..	¾ mile.
Nail in blaze in pine tree (14 inches diameter)	48	12	30	11.03 meters.
Spindle on left cupola of barn	101	51	..	½ mile.
Right corner of Mumford house	114	49	..	½ mile.
Nail in blaze in elm tree (6 inches diameter)	142	55	10	10.58 meters.
Left side of cedar tree (20 inches diameter)	136	40	..	57 yards.
Near peak of Dorrance house	154	16	..	⅜ mile.
Southeast peak of Crown house	182	45	..	¾ mile.
Left corner of second story of Lowndes house	226	54	..	74 meters.
Right corner of house	263	09	..	
Nail in blaze in elm tree (5 inches diameter)	298	45	40	16.11 meters.
Windmill on tower	340	31	..	1 mile.
Windmill on tower	346	53	..	¾ mile.

LOWNDES.

General locality.—Northwestern shore of Miles River about ¼ mile southwest of Miles River Bridge. (See Chart No. 32.)

Immediate locality.—Observed station is on a rounded point of marsh about 1 foot above high water, 7 yards northwest of shore, 8 yards west of shore, 9 yards north of shore, 16 yards east-northeast of shore, and 65 yards east-southeast of small locust trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Draw" (N 35° 59′ E)	0	00	00	¾ mile.
Right corner of Lockwood house	27	45	..	¾ mile.
Right corner of drawtender's house	51	42	..	¼ mile.
Henderson windmill	68	50	..	¼ mile.
Near peak of large house	116	51	..	½ mile.
Right corner of large house	200	22	..	2 miles.
Nail in blaze in locust tree (6 inches diameter)	294	42	30	19.17 meters.
Windmill at "The Anchorage"	342	47	..	⅛ mile.
Near corner of "The Anchorage"	348	50	..	⅛ mile.
Left corner of second story of Goldsborough house	359	59	..	⅜ mile.

DRAW.

General locality.—Northwestern shore of Miles River at northwest end of Miles River Bridge and near old Episcopal Church. (See Chart No. 32.)

Immediate locality.—Observed station is on lawn of "The Anchorage" about 4 feet above high water, 9 yards west of plank sea wall, 40 yards southwest of approach to bridge, 60 yards north of corner of plank sea wall, and 85 yards east of a house.

Marks.—Observed station is center point of triangle on standard cement monument with top 5 inches below surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Chap" (N 59° 04′ E)	0	00	00	¼ mile.
Spike in sea wall post	7	12	10	7.72 meters.
Near peak of Lockwood boat landing	10	15	..	½ mile.
Right corner of second story of Lockwood house	15	54	..	½ mile.
Spindle on barn cupola	54	46	..	⅜ mile.
Spike in sea wall post	78	53	00	12.03 meters.
Right corner of second story of Henderson house	87	00	..	¼ mile.
Nail in blaze in maple tree (12 inches diameter)	131	48	50	14.15 meters.
Left corner of log cabin	193	18	..	112 yards.
Nail in blaze in maple tree (12 inches diameter)	195	05	20	14.61 meters.
Right corner main house at "The Anchorage"	218	17	..	84 yards.
Nail in blaze in pear tree (10 inches diameter).	254	46	30	7.63 meters.
Right corner of old Episcopal Church	302	34	..	120 yards.
Spike in sea-wall post	325	20	10	15.32 meters.
Windmill on tower	331	51	..	¼ mile.
Lightning rod on tower of Goldsborough house	338	00	..	¼ mile.
Corner of stone bridge abutment	354	09	..	43 yards.

CHAP.

General locality.—Northwestern shore of Miles River opposite point between Glebe Creek and Goldsboro Creek, about ¼ mile northeast of Miles River Bridge. (See Chart No. 32.)

Immediate locality.—Observed station is on point about 2 feet above high water, 5 yards west of shore, 7 yards northeast of shore, and 9 yards north-northwest of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Villa" (S 61° 08′ E)	0	00	00	⅜ mile.
Right corner of 2½-story house	48	27	..	¼ mile.
Left peak of boathouse at "The Anchorage".	112	11	..	¼ mile.
Left corner of "The Anchorage"	123	26	..	¼ mile.
Left corner of old Episcopal Church	129	12	..	¼ mile.
Nail in blaze in locust tree (5 inches diameter)	165	37	50	13.65 meters.
Left corner of Goldsborough house	203	39	..	⅛ mile.
Nail in blaze in locust tree (8 inches diameter)	205	20	00	9.07 meters.
Windmill on tower	210	27	..	⅛ mile.
Nail in blaze in locust tree (8 inches diameter)	234	21	30	13.39 meters.
Right peak of brick house	275	28	..	⅜ mile.
Near peak of wharf house	329	55	..	⅛ mile.

VILLA.

General locality.—Southeastern shore of Miles River at northern side of entrance to Glebe Creek, about ¾ mile east of Miles River Bridge. (See Chart No. 32.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 11 yards northwest of shore, 17 yards southeast of shore, 30 yards west by south of extreme end of point of marsh, 75 yards northeast of shore, and southwest of a few small trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Easton" (S 70° 44′ W)	0	00	00	¾ mile.
Spindle on cupola of barn near "The Anchorage"	16	25	..	⅝ mile.
Windmill at "The Anchorage"	20	25	..	⅝ mile.
Left corner of tower of old Episcopal Church	25	13	..	⅝ mile.
Left corner of modern house	54	07	..	¾ mile.
Windmill on tower	57	49	..	½ mile.
Nail in blaze in locust tree (8 inches diameter)	67	52	00	17.83 meters.
Left corner of "The Villa"	103	42	..	⅝ mile.
Nail in blaze in locust tree (4 inches diameter)	119	43	00	19.86 meters.
Nail in blaze in persimmon tree (8 inches diameter)	169	12	00	26.23 meters.
Right corner of large house	223	26	..	¾ mile.
Tongue of bell	278	19	..	¾ mile.
Right corner of Henderson house	347	37	..	¾ mile.

EASTON.

General locality.—Southeastern side of Miles River on southeastern approach to Miles River Bridge. (See Chart No. 32.)

Immediate locality.—Observed station is on southwest side of cribwork retaining a shell road, 6 inches from downstream edge of cribwork, 7 yards southwest of upstream edge of cribwork, 25 yards southeast of corner of cribwork abutment, 30 yards northwest of extended line of Henderson sea wall, 9 yards southwest by south of nails in side of telephone pole on upstream side of bridge, and 45 yards northwest by west of first telephone pole southeast of bridge on northeastern side of road.

Marks.—Observed station is spindle, 1 inch diameter, on top of 3-inch square timber.

References.—None necessary.

HENDERSON.

General locality.—Southeastern shore of Miles River on a point about ¼ mile southwest of Miles River Bridge. (See Charts Nos. 32 and 34.)

Immediate locality.—Observed station is on a hard marsh point about 1 foot above high water, 6 yards southeast of shore, 8 yards south of shore, 13 yards east of shore, 23 yards north-northeast of point of higher land, and 15 yards north of trees along bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Bethel" (S 65° 49′ W)	0	00	00	⅜ mile.
Left corner of second story of Lowndes house	25	54	..	⅝ mile.
Peak of near gable of house	40	54	..	⅜ mile.
Windmill at "The Anchorage"	101	51	..	⅜ mile.
Right corner of old Episcopal Church tower	112	06	..	¾ mile.
Left corner of Goldsborough house	129	54	..	⅝ mile.

References—Continued.	°	′	″		
Henderson windmill	174	47	..	.....	⅛ mile.
Nail in blaze in wild-cherry tree (5 inches diameter)	258	17	30	.....	16.25 meters.
Nail in blaze in locust tree (5 inches diameter)	306	43	40	.....	13.76 meters.
Nail in blaze in wild-cherry tree (7 inches diameter)	336	10	10	.....	21.71 meters.

ST. MICHAELS WATER TANK.

General locality.—Western side of Miles River in town of St. Michaels, on north side of Railroad Avenue, near African M. E. Church. (See Charts Nos. 32 and 34.)

Immediate locality.—Observed station is on top of a 60,000-gallon water tank on a steel tower 90 feet high.

Marks.—Observed station is spindle on center of top of water tank.

References.—None necessary.

MILLWIND.

General locality.—Western shore of Miles River at south side of entrance to Long Haul Creek, about ⅞ mile northeast of St. Michaels Water Tank and ⅝ mile south of Deep Water Point. (See Chart No. 32.)

Immediate locality.—Observed station is on edge of cultivated field about 8 feet above high water, 2 yards west of edge of bank, 17 yards south of edge of bluff, and 18 yards south by west of junction of bush-covered bank and washed bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"St. Michaels Water Tank" (S 49° 19′ W)	0	00	00	.....	⅞ mile.
Largest one of group of 3 cherry trees	26	45	..	.....	80 yards.
Nail in blaze in cedar tree (12 inches diameter)	69	00	00	.....	38.94 meters.
Square chimney of Barnard house	88	46	..	.....	½ mile.
Weather vane on square tower on house on Deep Water Point farm	125	13	..	.....	¾ mile.
North peak of house	168	00	..	.....	1¾ miles.
Left chimney of Rieman house	221	09	..	.....	1¼ miles.
Right chimney of large modern house on Hunting Creek	246	41	..	.....	2½ miles.
Steeple on building	272	37	..	.....	4 miles.
Nail in blaze in cedar tree (10 inches diameter)	310	07	00	.....	5.28 meters.
Union M. E. Church spire	358	26	20	.....	¾ mile.

DEEWAT.

General locality.—Western shore of Miles River on Deep Water Point, about ⅞ mile west-northwest of Fairview Point. (See Chart No. 32.)

Immediate locality.—Observed station is on sand and grass point about 2 feet above high water, 8 yards southwest of shore, 7 yards northwest of shore, and 10 yards west of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"St. Michaels Water Tank" (S 33° 08′ W)	0	00	00	.....	1½ miles.
Weather vane on Dodson house	53	13	..	.....	¼ mile.
Tangent of Tilghmans Point	117	58	..	.....	4⅝ miles.
Right tangent of Parsons Island	133	28	..	.....	7⅛ miles.
Large square chimney of Starr house	179	59	..	.....	2⅝ miles.
Large chimney of house	212	08	..	.....	1⅛ miles.
Cupola on Rieman house	271	59	..	.....	1¼ miles.
Tangent of Long Point	287	02	..	.....	3¼ miles.
Steeple	295	04	..	.....	4½ to 5 miles.
Large chimney of house	297	41	..	.....	2⅞ miles.
Large chimney of house	309	30	..	.....	2⅜ miles.
"St. Michaels P. E. Church spire"	353	40	40	.....	1⅝ miles.

SPAR.

General locality.—Southwestern shore of Miles River, about 1 mile southeast of entrance to Hambleton Creek and ⅜ mile northwest of Deep Water Point. (See Chart No. 32.)

Immediate locality.—Observed station is on cedar and locust fringed shore, about 4 feet above high water, 11 yards west of shore, 12 yards southwest of shore, and 15 yards south of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Sara" (N 39° 19′ W)	0	00	00	.....	1 mile.
Chimney of house on Tilghmans Point farm	1	19	..	.....	4 miles.
Near peak of barn beyond Herring Island	42	38	..	.....	8¾ miles.
Nail in blaze in oak tree (3 inches diameter)	54	59	00	.....	4.52 meters.
Right tangent of chimney	125	32	..	.....	1¾ miles.
Tangent of Deep Water Point	181	22	..	.....	⅜ mile.
Nail in blaze in locust tree (3 inches diameter)	240	08	40	.....	6.84 meters.
Nail in blaze in locust tree (4 inches diameter)	279	53	30	.....	3.58 meters.

SARA.

General locality.—Southwestern shore of Miles River, about 3¼ miles south-southeast of northern end of Tilghmans Point, 1¼ miles southwest of Herring Island, and on point at eastern side of entrance to Hambleton Creek. (See Chart No. 32.)

Immediate locality.—Observed station is in a cultivated field about 15 feet above high water, 16 yards southwest of a bluff 12 feet high with uniform slope to shore, and 20 yards east of depression 4 feet deep.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Wood" (N 52° 14′ E)	0	00	00	.....	2 miles.
West chimney of house	127	40	..	.....	½ mile.
Nail in blaze in hackberry tree (12 inches diameter)	158	58	50	.....	22.02 meters.
Nail in blaze in cedar tree (12 inches diameter)	204	12	50	.....	12.66 meters.
Right tangent of Tilghmans Point	282	58	..	.....	3¼ miles.
"Parsons Island Water Tank"	297	11	..	.....	6⅛ miles.
South gable of barn	315	40	..	.....	8 miles.
South gable of house	323	03	..	.....	6 miles.
South gable of barn	340	49	..	.....	4 miles.

SETH.

General locality.—Southwestern shore of Miles River, on a point about 2½ miles south of northern end of Tilghmans Point and ¾ mile northwest of entrance to Porters Creek. (See Chart No. 32.)

Immediate locality.—Observed station is in clump of cedar trees about 12 feet above high water, 9 yards southwest of top of vertical bank, washed by high water, 50 yards northwest of extreme end of point, and 400 yards northeast of a house. Cement monument marking reference station is 9.56 meters S 67° 41′ W of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 12 inches above surface of ground.

References.—	°	′	″	
"Herr" (N 79° 07′ E)	0	00	00	2 miles.
Nail in blaze in cedar tree (12 inches diameter)	145	20	20	10.89 meters.
REFERENCE STATION	168	34	30	9.56 meters.
Nail in blaze in cedar tree (6 inches diameter)	219	59	45	4.44 meters.
South gable of house	282	12	..	5½ miles.
South gable of barn	305	34	..	6 miles.
West gable of house	312	30	..	6 miles.
Cupola on barn	356	52	..	3 miles.

PEARSON.

General locality.—Western shore of Miles River on Tilghmans Point about ⅜ mile south-southeast of northern end of point. (See Chart No. 32.)

Immediate locality.—Observed station is on wooded bluff about 20 feet above high water, 5 yards west of top of vertical bank at shore, and 100 yards north of first point south of northern end of Tilghmans Point. Cement monument marking reference station is 12.66 meters N 86° 03′ W of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 6 inches above surface of ground.

References.—	°	′	″	
"Green" (N 45° 46′ E)	0	00	00	3⅜ miles.
South gable of barn	1	14	..	5 miles.
South chimney of house	11	48	..	3½ miles.
West chimney of house	26	31	..	2⅞ miles.
West gable of barn	62	31	..	3¼ miles.
East gable of barn	76	09	..	4 miles.
West chimney of house	111	30	..	3¼ miles.
North chimney of house	125	20	..	3⅛ miles.
Chimney of house	130	36	..	2½ miles.
Nail in blaze in white oak tree (8 inches diameter)	178	09	40	5.31 meters.
REFERENCE STATION	228	11	00	12.66 meters.
Nail in blaze in white oak tree (12 inches diameter)	239	19	20	9.99 meters.
South gable of house on Parsons Island	317	17	..	3½ miles.
South gable of barn	350	02	..	4⅜ miles.

DIXON.

General locality.—Southeastern side of Eastern Bay on Tilghmans Point about half way between Eastern Bay and Miles River ¾ mile southwest of northern end of point and 1⅝ miles northeast of Claiborne Wharf. (See Chart No. 32.)

Immediate locality.—Observed station is on top of a 2-story square frame house on Tilghmans Point farm.

Marks.—Observed station is center of upright staff, 3 inches square, set in the center of trapdoor at apex of square roof.

References.—None necessary.

ROD.

General locality.—Eastern shore of the upper part of Harris Creek on southeastern side of entrance to Northeast Branch. (See Charts Nos. 32 and 34.)

Immediate locality.—Observed station is in a cultivated field about 10 feet above high water, 5 yards southeast of shore, and 2 yards southeast of top of bank with uniform slope to shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Otto" (S 0° 41′ W)	0	00	00	.....	⅜ mile.
North chimney of house	5	31	..	.....	1¼ miles.
East chimney of house at Bozman	14	01	..	.....	2¼ miles.
East gable of small barn	92	12	..	.....	¾ mile.
North chimney of Warner House	108	42	..	.....	¾ mile.
Cupola on tin-roofed barn	139	52	..	.....	¾ mile.
Right tangent of barn	186	26	..	.....	1½ miles.
South chimney on Harrison house	218	06	..	.....	250 yards.
West gable of barn	300	37	..	.....	¾ mile.
Lone persimmon tree (12 inches diameter)	355	01	..	.....	250 yards.

OTTO.

General locality.—Eastern shore of upper Harris Creek about ½ mile south of junction of Northeast Branch and Northwest Branch. (See Charts Nos. 32 and 34.)

Immediate locality.—Observed station is in a cultivated field about 8 feet above high water, 18 yards east of top of vertical bank 6 feet high washed by high water, and 100 yards north of old fence covered with vines.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Miller" (S 11° 56′ E)	0	00	00	.....	¼ mile.
Nail in blaze of locust tree (4 inches diameter)	18	18	10	.....	28.03 meters.
North chimney of Bridges house	43	27	..	.....	2½ miles.
East chimney of Harrison house	56	53	..	.....	1 mile.
Nail in blaze in one of twin locust trees (15 inches diameter)	70	39	40	.....	12.67 meters.
Left tangent of Seth bathhouse	92	43	..	.....	¼ mile.
South gable of Warner barn	145	31	..	.....	1 mile.
East chimney of house	158	52	..	.....	1¾ miles.
Cupola on tin-roofed barn	166	16	..	.....	1 mile.
South chimney of Marion Harrison house	204	00	..	.....	¾ mile.
North chimney of house	264	37	..	.....	¾ mile.
North gable of barn	357	54	..	.....	¼ mile.

HADDAWAY.

General locality.—Eastern shore of Chesapeake Bay on Lows Point between Harbor Cove and Haddaway Cove about 2 miles east of north end of Poplar Island. (See chart No. 33.)

Immediate locality.—Observed station is on marsh point about 1 foot above high water, 65 yards north of shore, 100 yards south of shore, 140 yards east of shore, and 25 yards west of woods.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Valliant" (S 82° 08′ W)	0	00	00	2⅝ miles.
Left peak of barn on Poplar Island	0	21	..	2⅜ miles.
"Bloody Point Bar Light"	60	23	10	5 miles.
Left chimney on large house	80	54	..	6 miles.
Chimney on middle of large house	87	14	..	5¾ miles.
Peak of house between two chimneys	109	00	..	9½ miles.
Chimney of two-story house	125	55	..	4 miles.
"Kemp Tower"	127	16	50	4⅓ miles.
Nail in blaze in pine tree (14 inches diameter)	139	39	50	36.78 meters.
Nail in blaze in pine tree (12 inches diameter)	164	52	10	28.77 meters.
Nail in blaze in pine tree (8 inches diameter)	213	45	20	24.66 meters.
Chimney on ell of house	275	10	..	1⅜ miles.
Chimney of house on Poplar Island	330	29	..	2¼ miles.
Chimney of house on Poplar Island	359	01	..	2⅜ miles.

VALLIANT.

General locality.—Eastern side of Chesapeake Bay on western shore of Poplar Island about ¾ mile southwest of extreme north end of island. (See Chart No. 33.)

Immediate locality.—Observed station is in cultivated land about 5 feet above high water, 15 yards north by east of a line of small trees, 72 yards east by south of shore at end of line of trees, and 210 yards south by west of point of woods.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Bloody Point Bar Light" (N 4° 58′ W)	0	00	00	4½ miles.
Near peak of large building	14	07	..	5 miles.
Near chimney of large house	19	57	..	6⅛ miles.
Near corner of shanty in field	81	17	..	200 yards.
Chimney of house	94	31	..	¼ mile.
Flagstaff on Lowes Wharf	100	59	..	3 miles.
Chimney of house on point behind trees	122	35	..	2¾ miles.
Chimney of small house	164	34	..	⅜ mile.
Nail in blaze in peach tree (4 inches diameter)	176	13	44	15.14 meters.
Nail in blaze in persimmon tree (3 inches diameter)	230	44	00	11.90 meters.
Nail in blaze in peach tree (2½ inches diameter)	262	51	30	17.83 meters.

POPLAR SOUTH.

General locality.—Eastern side of Chesapeake Bay on Poplar Island on a point of land at southern side of Poplar Island Harbor. (See Chart No. 33.)

Immediate locality.—Observed station is on a sandy marsh about 1 foot above high water, 7 yards west-southwest of shore of harbor, 16 yards east-northeast of bay shore, 60 yards north-northwest of extreme point of largest one of the group of islands known as Poplar Island, and 11 yards north of a lone pine tree.

Marks.—Obseved station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Sharps Island Light" (S 1° 06′ E)	0	00	00	.....	8 miles.
Near peak of house	49	34	..	.....	11⅛ miles.
Left tower of hotel	61	47	..	.....	9½ miles.
Left tangent of house	79	30	..	.....	9½ miles.
Left tangent of house	101	47	..	.....	9 miles.
East peak of Howeth house	157	38	..	.....	⅝ mile.
Lightning rod near east chimney of house	189	25	..	.....	1⅜ miles.
Right chimney of Valliant house	208	11	..	.....	¾ mile.
"Kemp Tower"	221	57	10	.....	6½miles.
Left corner of left oyster house at Lowes Wharf	254	53	..	.....	2⅞ miles.
Chimney of house	262	14	..	.....	2¾ miles.
Square cupola	336	05	..	.....	5 miles.
High cupola	336	10	..	.....	5 miles.
Nail in blaze in pine tree (12 inches diameter)	345	01	30	.....	10.89 meters.

GREAT.

General locality.—Eastern shore of Chesapeake Bay on Great Marsh Point about 1 mile east of southeast end of Poplar Island. (See Chart No. 33.)

Immediate locality.—Observed station is on marsh point about 2 feet above high water, 40 yards east of shore, 40 yards southeast of shore, 50 yards northeast of shore, and 256 yards from woods.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Sharps Island Light" (S 13° 18′ W)	0	00	00	.....	7¾ miles.
Howeth house	101	17	..	.....	2⅜ miles.
Near peak of house on Poplar Island	121	51	..	.....	2½ miles.
"Bloody Point Bar Light"	142	18	30	.....	6½ miles.
Right end of house	295	39	..	.....	1 mile.
Near peak of house	324	02	..	.....	¼ mile.
Chimney of house	340	51	..	.....	¾ mile.

FRONT.

General locality.—Eastern shore of Chesapeake Bay about ¼ mile north of entrance to Front Creek, ¾ mile north of Knapps Narrows, and 1½ miles southeast of southeast end of Poplar Island. (See Chart No. 33.)

Immediate locality.—Observed station is about 3 feet above high water, 13 yards north-northeast of shore, 18 yards southeast of shore, 25 yards east of extreme end of point, and near several dead trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Sharps Island Light" (S 15° 04′ W)	0	00	00	.....	6¼ miles.
Chimney of house	127	59	..	.....	3¼ miles.
Right peak of Valliant house	129	49	..	.....	2¾ miles.
"Bloody Point Bar Light"	144	10	30	.....	7⅜ miles.
Nail in blaze in pine tree (5 inches diameter)	223	49	20	.....	14.54 meters.
Nail in blaze in pine tree (4 inches diameter)	274	37	40	.....	11.82 meters.
Nail in blaze in pine tree (4 inches diameter)	317	37	20	.....	11.95 meters.
Near peak of large barn	334	58	..	.....	1 mile.

WAP.

General locality.—Eastern shore of Chesapeake Bay on a point about 4¾ miles north by east of Sharps Island Light and 1 mile south of Knapps Narrows. (See Chart No. 33.)

Immediate locality.—Observed station is on a point about 3 feet above high water, 56 yards east of extreme end of point, 68 yards north by east of shore, 83 yards south by west of shore, and 3 yards west-northwest of edge of cultivated land.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Sharps Island Light" (S 18° 04′ W)	0	00	00	.....	4¾ miles.
Nail in blaze in pine tree (6 inches diameter)	16	57	00	.....	32.99 meters.
East chimney of Howeth house	136	00	..	.....	4⅜ miles.
Chimney of house	181	12	..	.....	1½ miles.
Near peak of house showing over woods	200	01	..	.....	½ mile.
Nail in blaze in persimmon tree (10 inches diameter)	263	54	50	.....	61.80 meters.
Nail in blaze in persimmon tree (5 inches diameter)	279	10	00	.....	61.23 meters.
West peak of large house	305	27	..	.....	⅜ mile.
Square cupola	322	20	20	.....	1 mile.
High cupola	323	05	30	.....	1 mile.
Chimney of house with three side gables	335	49	..	.....	⅞ mile.
Right tangent of point	347	09	..	.....	1⅜ miles.
Left tangent of old hotel building on Sharps Island	350	35	40	.....	6 miles.

SOUTHERN M. E. CHURCH.

General locality.—Eastern shore of Chesapeake Bay on Tilghman Island about 1¾ miles north of Blackwalnut Point and 2 miles south of Knapps Narrows. (See Chart No. 33.)

Immediate locality.—Observed station is about ¼ mile inshore from Chesapeake Bay on west side of main road on building known as the St. Johns Chapel (Southern M. E. Church).

Marks.—Observed station is center of bell cupola on church.

References.—None necessary.

BLACK.

General locality.—Eastern shore of Chesapeake Bay on Blackwalnut Point at north side of entrance to Choptank River about 2¾ miles northeast of Sharps Island Light. (See Charts Nos. 33 and 36.)

Immediate locality.—Observed station is in cultivated land about 8 feet above high water, 35 yards east-northeast of edge of bank, 45 yards west of edge of bank, 65 yards northwest of edge of bank, and 130 yards south of a lone apple tree.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Sharps Island Light" (S 43° 37′ W)	0	00	00	.....	2¾ miles.
Near peak of old house	123	10	..	.....	½ mile.
Lone apple tree	133	16	..	.....	131 yards.
Chimney of house among trees	145	38	..	.....	1¾ miles.
Right chimney of house near water	163	31	..	.....	1 mile.
Right chimney of large house	211	27	..	.....	7 miles.
"Choptank River Light"	232	11	30	.....	8½ miles.
Near peak of barn	253	22	..	.....	6 miles.
Left chimney of house	270	12	..	.....	3⅞ miles.
Chimney outside left end of house	283	35	..	.....	7 miles.
Near peak of old hotel building, on Sharps Island	337	47	..	.....	3½ miles.

SHARPS ISLAND LIGHT.

General locality.—Eastern side of Chesapeake Bay off entrance to Choptank River, about 1 mile north-northwest of Sharps Island and 2⅝ miles southwest of Blackwalnut Point. (See Charts Nos. 33 and 36.)

Immediate locality.—Observed station is on structure with a cylindrical foundation known as Sharps Island Light.

Marks.—Observed station is center point of lantern on Sharps Island Light.

References.—	°	′	″		
"Black" (N 43° 36′ E)	0	00	00	.....	2¾ miles.

JERE.

General locality.—Eastern side of Chesapeake Bay on Sharps Island, about 1½ miles south-southeast of Sharps Island Light. (See Charts Nos. 33 and 36.)

Immediate locality.—Observed station is on hard ground about 7 feet above high water, 95 yards south-southeast of old hotel building, 95 yards west-southwest of shore, 150 yards southwest of a point, and in such a position that Sharps Island Light shows to the right of the old hotel building.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Sharps Island Light" (N 24° 06′ W)	0	00	00	.....	1½ miles.
Church cupola	46	35	50	.....	5¼ miles.
Chimney on left end of roof of large house	47	44	..	.....	5 miles.
Chimney of large house	104	25	..	.....	4¼ miles.
Large chimney of large house	115	46	..	.....	4¾ miles.
Chimney on right end of large house	142	21	..	.....	5⅝ miles.
Near corner of house	346	59	..	.....	95 yards.

BAR.

General locality.—Western shore of entrance to Harris Creek on Upper Bar Neck Point about 1¾ miles north-northeast of Blackwalnut Point and 1½ miles south-southeast of Tilghman Island Wharf. (See Chart No. 33.)

Immediate locality.—Observed station is in cultivated field about 6 feet above high water, 3 yards west of edge of bank, and 60 yards north of line of trees at edge of marsh. Cement monument marking reference station is 45.81 meters S 83° 00′ W of observed station, nearly on line to large lone persimmon tree 15 inches diameter.

Marks.—Observed station is center of 4-inch tile pipe with top about 6 inches below surface of ground. Reference station is center point of triangle on standard cement monument projecting 6 inches above surface of ground.

References.—	°	′	″		
"Large Water Tank" (S 61° 46′ E)	0	00	00	.....	9¼ miles.
Nail in blaze in oak stump	63	18	00	.....	51.17 meters.
Nail in blaze in wild cherry tree	78	58	40	.....	46.66 meters.
Nail in blaze in cedar tree	88	35	30	.....	47.69 meters.
Nail in blaze in lone persimmon tree	144	33	10	.....	49.48 meters.
REFERENCE STATION	144	46	00	.....	45.81 meters.
Right chimney of first house to right of woods	205	39	..	.....	⅜ mile.
Schoolhouse cupola	213	11	40	.....	1⅜ miles.
Stack of cannery	216	19	..	.....	1½ miles.
Stack of cannery	227	10	..	.....	1¾ miles.
Right chimney of house showing over woods	239	07	..	.....	2¼ miles.
Neavitt schoolhouse cupola	269	25	..	.....	3¾ miles.
Chimney of house	276	58	..	.....	2½ miles.

M. E. CHURCH.

General locality.—Eastern shore of Chesapeake Bay on Tilghman Island, about 2¾ miles north of Blackwalnut Point and ¾ mile south of Knapps Narrows. (See Chart No. 33.)

Immediate locality.—Observed station is on main road about halfway between the shores of Chesapeake Bay and Harris Creek, about ¼ mile east of Tilghman Island Wharf on building known as Tilghman Island M. E. Church.

Marks.—Observed station is center of small square cupola on church.

References.—None necessary.

AVALON.

General locality.—Western shore of Harris Creek on Tilghman Island on point about 100 yards north of shore end of Tilghman Island Wharf. (See Chart No. 33.)

Immediate locality.—Observed station is on marsh and clay point, about 1 foot above high water, 9 yards south of shore, 12 yards northwest of shore, 20 yards north-northwest of northeast corner of a house, about 1 yard east of produced line of end of house, 10 yards north of 2 pine trees, and 6 yards north-northwest of bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Narrows" (N 34° 29′ E)	0	00	00	.....	¾ mile.
Near peak of house with 2 chimneys	2	47	..	.....	3¼ miles.
Stack of cannery on wharf	8	34	..	.....	¼ mile.
Near peak of house with 2 chimneys	35	40	..	.....	2⅛ miles.
Chimney next to skylight on highest house on Tilghman Island Wharf	80	38	..	.....	¼ mile.
Stack of cannery	150	07	..	.....	¼ mile.
Nail in blaze in pine tree (14 inches diameter)	154	00	30	.....	10.21 meters.
Northeast corner of a house	161	11	50	.....	17.24 meters.
Nail in blaze in northwest side of pine tree (15 inches diameter)	181	14	00	.....	9.81 meters.
Nail in blaze in cherry tree (12 inches diameter)	224	12	30	.....	10.66 meters.
Lightning rod on east peak of house	243	47	..	.....	150 yards.
Weather vane on schoolhouse	270	59	10	.....	¼ mile.
Near peak of house with chimney	322	18	..	.....	300 yards.

SCHOOLHOUSE CUPOLA.

General locality.—Eastern shore of Chesapeake Bay on Tilghman Island about 3 miles north of Blackwalnut Point and ½ mile south of Knapps Narrows. (See Chart No. 33.)

Immediate locality.—Observed station is on main road about halfway between the shores of Chesapeake Bay and Harris Creek about ⅜ mile northwest of Tilghman Island Wharf on schoolhouse building.

Marks.—Observed station is center of bell cupola on schoolhouse.

References.—None necessary.

PEOPLES CHAPEL.

General locality.—Eastern shore of Chesapeake Bay on Tilghman Island about 3¼ miles north of Blackwalnut Point and ¼ mile south of Knapps Narrows. (See Chart No. 33.)

Immediate locality.—Observed station is in the town of Tilghman about ½ mile north of Tilghman Island Wharf on building known as Peoples Chapel.

Marks.—Observed station is center of small square cupola on chapel.

References.—None necessary.

NARROWS.

General locality.—Western shore of Harris Creek about ¼ mile northeast of east entrance to Knapps Narrows, and 1¼ miles west of Change Point. (See Chart No. 33.)

Immediate locality.—Observed station is in cultivated field back of a fringe of trees about 6 feet above high water, 45 yards west-northwest of shore, 15 yards west-northwest of edge of field, 90 yards south-southwest of corner of field, and 145 yards northeast of a point of bank where wire fence meets trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Eagle" (N 37° 30′ E)	0	00	00	.....	1 mile.
Near peak of Morris House with two chimneys	0	41	..	.....	2⅜ miles.
Nail in blaze in wild-cherry tree (6 inches diameter)	23	33	40	.....	22.07 meters.
Near peak of Wayman house	56	08	..	.....	1½ miles.
Nail in blaze in mulberry tree (7 inches diameter)	80	59	10	.....	12.90 meters.
"Choptank River Light"	88	32	00	.....	8¾ miles.
Nail in blaze in pine tree (12 inches diameter)	110	15	00	.....	17.83 meters.
Near corner peak of house on Tilghman Island Wharf	160	59	..	.....	¾ mile.
Left stack of cannery	172	51	..	.....	1 mile.
Near peak of hotel with chimney almost in range	183	53	..	.....	⅞ mile.
"Peoples Chapel"	206	48	40	.....	⅝ mile.
Near peak of house with one chimney	284	38	..	.....	⅜ mile.
Left peak of house	326	02	..	.....	¼ mile.

EAGLE.

General locality.—Western shore of Harris Creek on Bald Eagle Point about ¾ mile west of Turkey Neck Point, and 2 miles north-northeast of Tilghman Island Wharf. (See Chart No. 33.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, 2 yards west of shore, 45 yards north by west of point of marsh, 150 yards south by east of point of marsh, and 120 yards east of woods. Cement monument marking reference station is 15.41 meters S 88° 35′ W of observed station.

Marks.—Observed station is a nail in a cedar stub 4 inches diameter projecting 2 inches above surface of ground. Reference station is center point of triangle on standard cement monument projecting 6 inches above surface of ground.

References.—	°	′	″		
"Dunk" (N 0° 42′ E)	0	00	00	.....	1 mile.
Near peak of house on Indian Point	20	44	..	.....	1⅝ miles.
Square chimney of house with ell	46	03	..	.....	1⅜ miles.
Center of chimney of house among trees	86	17	..	.....	1¼ miles.
Large chimney of house	112	42	..	.....	1⅛ miles.
Right chimney of house	131	57	..	.....	1¼ miles.
Stack of cannery	213	34	..	.....	1⅜ miles.
REFERENCE STATION	267	52	50	.....	15.41 meters.
Near peak of house	342	51	..	.....	⅜ mile.

DUNK.

General locality.—Western shore of Harris Creek on Seths Point at northeast side of entrance to Dun Cove, about 3 miles from the Choptank River. (See Chart No. 33.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, 6 yards northwest of shore, 23 yards north-northeast of point, 26 yards northeast of shore of Duns Cove, 12 yards west of shore of Harris Creek, 100 yards east of bushes extending north and south, and 250 yards east of woods. Cement monument marking reference station is 11.22 meters N 78° 54′ W of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 4 inches above surface of marsh. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 6 inches above surface of ground.

References.—	°	′	″		
"Hawk" (N 2° 48′ W)	0	00	00	.....	½ mile.
Near peak of house with square chimneys	1	50	..	.....	1⅝ miles.
Near peak of roof of house with three chimneys	18	22	..	.....	2 miles.
Weathervane on right end of house with two chimneys	41	35	..	.....	1¾ miles.
Near peak of large barn	57	14	..	.....	1 mile.
Cupola on Neavitt School	129	32	30	.....	1⅜ miles.
Weathervane on middle of house with two chimneys	151	00	..	.....	1¾ miles.
Chimney on left end of house among trees	155	53	..	.....	2 miles.
Chimney at left of house among trees	204	26	..	.....	1½ miles.
REFERENCE STATION	283	54	20	.....	11.22 meters.
Brick house	338	06	..	.....	½ mile.
Left peak of old house	352	04	..	.....	⅜ mile.

HAWK.

General locality.—Western shore of Harris Creek about ½ mile north of Seths Point and ½ mile west of Indian Point. (See Chart No. 33.)

Immediate locality.—Observed station is in cultivated field about 4 feet above high water and 22 yards northwest of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Dunk" (S 2° 48′ E)	0	00	00	.....	½ mile.
Nail in blaze in mulberry tree (8 inches diameter)	21	00	30	.....	13.53 meters.
North chimney of Harrison house	47	04	..	.....	400 yards.
Dead pine tree with hawk nest in top	141	11	..	.....	¼ mile.
Cupola on house	168	35	..	.....	1¼ miles.

References—Continued.	°	′	″		
South chimney of house	182	46	..	.....	1⅛ miles.
Chimney of McQuay oyster house	227	23	..	.....	1⅜ miles.
South gable of barn	252	12	..	.....	1¼ miles.
North chimney of house	275	58	..	.....	1 mile.
Nail in blaze in hackberry tree (10 inches diameter)	304	34	..	.....	8.62 meters.
Chimney of house	312	35	..	.....	1¼ miles.
North gable of barn	330	40	..	.....	2¼ miles.

SMITH.

General locality.—Eastern shore of Harris Creek on Smith Point between Briary Cove and Waterhole Cove and about ¾ mile west-southwest of Little Neck Point. (See Chart No. 33.)

Immediate locality.—Observed station is on marsh point, about 1 foot above high water, and 6 yards west of shore. Cement monument marking reference station is 13.44 meters N 62° 39′ W of observed station.

Marks.—Observed station is nail in center of 3-inch stub projecting 1 foot above surface of ground. Reference station is center point of triangle on standard cement monument projecting 6 inches above surface of ground.

References.—	°	′	″		
"Hawk" (S 12° 31′ W)	0	00	00	.....	¾ mile.
Chimney of small house	3	01	..	.....	1¼ miles.
North gable of barn	21	32	..	.....	1 mile.
North chimney of house	26	39	..	.....	½ mile.
North edge of Lamdin house	73	32	..	.....	½ mile.
REFERENCE STATION	104	49	40	.....	13.44 meters.
South chimney of house	140	28	..	.....	⅜ mile.
East chimney of house	174	38	..	.....	¾ mile.
Chimney of house	206	27	..	.....	2 miles.
West gable of McQuay oyster house	242	43	..	.....	⅞ mile.
Chimney of McQuay house	247	39	..	.....	⅞ mile.
Chimney of small house	270	46	..	.....	¾ mile.
South chimney of Edmonds house	288	13	..	.....	¾ mile.
North chimney of house	308	16	..	.....	1 mile.

BRIARY.

General locality.—Western shore of Harris Creek, on a point at northeastern side of entrance to Briary Cove, about ⅜ mile west of Little Neck Point. (See Chart No. 33.)

Immediate locality.—Observed station is on a marsh point about 10 yards from extreme end of point.

Marks.—Observed station is center of 3-inch cedar stub projecting 8 inches above surface of ground.

References.—

NOTE.—This station was established in 1900 and was not reoccupied or re-marked during oyster survey, although relocated by concluded angles.

VINE.

General locality.—Western shore of Harris Creek about ¼ mile north-northwest of Little Neck Point. (See Charts Nos. 33 and 34.)

Immediate locality.—Observed station is in cultivated field about 7 feet above high water, 6 yards northwest of shore, and 3 yards northwest of top of vertical bank. Cement monument marking reference station is 15.86 meters N 67° 54′ W of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 5 inches above surface of ground.

References.—	°	′	″		
"Smith" (S 58° 54′ W)	0	00	00	.....	⅞ mile.
Reference station	53	11	50	.....	15.86 meters.
Cupola on barn	59	52	..	.....	1 mile.
South gable of barn	91	31	..	.....	¾ mile.
Large pine tree	182	09	..	.....	100 yards.
North chimney of house	199	50	..	.....	1⅞ miles.
West chimney of house	210	28	..	.....	1⅜ miles.
"Bozman M. E. Church Spire"	213	43	..	.....	1⅜ miles.
Chimney of Bridges kitchen	217	27	..	.....	¾ mile.
West chimney of house	250	29	..	.....	½ mile.
North chimney of house	295	45	..	.....	½ mile.
West chimney of Edmonds house	309	43	..	.....	¾ mile.
Lomax windmill	326	00	..	.....	3½ miles.

CUMMINGS.

General locality.—Western shore of Harris Creek, on point on western side of entrance to Cummings Creek, about ½ mile north-northeast of Little Neck Point. (See Charts Nos. 33 and 34.)

Immediate locality.—Observed station is in a cultivated field about 10 feet above high water, 70 yards north of extreme end of point, and 50 yards northwest of lone pine tree near shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Dog" (N 49° 51′ E)	0	00	00	.....	⅜ mile.
West gable of barn at Bozman	52	24	..	.....	1¼ miles.
"Bozman M. E. Church spire"	56	36	..	.....	1⅛ miles.
West gable of house	60	30	..	.....	1¼ miles.
Lone pine tree near shore	75	31	..	.....	50 yards.
South chimney of house	122	51	..	.....	1½ miles.
West gable of McQuay oysterhouse	149	15	..	.....	½ mile.
Cupola on barn	225	28	..	.....	1¼ miles.
Cupola on barn	286	52	..	.....	1½ miles.
West chimney of house	297	13	..	.....	1 mile.
West chimney of house	337	32	..	.....	1¼ miles.

DAN.

General locality.—Eastern shore of Harris Creek on Little Neck Point about ¾ mile east-northeast of Smith Point. (See Charts Nos. 33 and 34.)

Immediate locality.—Observed station is on narrow neck of oyster shells, about 35 yards east of southwest corner of McQuay's oysterhouse, 60 yards east of the extreme west end of point, 25 yards west of bank at edge of woods, and 3 yards south of shell path to oysterhouse. Cement monument marking reference station is 21.37 meters S 69° 28′ E of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 5 inches above surface of ground. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″		
"Fox" (N 64° 54′ E)	0	00	00	.....	½ mile.
Reference station	45	37	45	.....	21.37 meters.
Nail in blaze in persimmon tree (4 inches diameter)	50	32	00	.....	21.84 meters.
Nail in blaze in persimmon tree (6 inches diameter)	75	34	00	.....	22.99 meters.

References—Continued.

	°	′	″	
North chimney of Edmonds house	134	29	..	⅝ mile.
North gable of barn	166	20	..	2 miles.
Stack of cannery at Sherwood	190	40	..	1¼ miles.
Cupola on house	210	55	..	1¼ miles.
Chimney of small house	227	04	..	1¼ miles.
East gable of McQuay oysterhouse	237	37	..	35 yards.
Church spire at Wittman	292	46	..	2½ miles.
Chimney of small house	321	41	..	1½ miles.
Chimney of small house	355	49	..	1½ miles.

EDMOND.

General locality.—Eastern shore of Harris Creek, about ⅝ mile south-southwest of Little Neck Point, and ⅝ mile north-northeast of Indian Point. (See Chart No. 33.)

Immediate locality.—Observed station is in southwest corner of yard of a house about 15 feet above high water, 7 yards southeast of top of bank 15 feet high, and nearly on line with south side of house. Cement monument marking reference station is 16.56 meters S 59° 29′ E of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Dan" (N 21° 25′ E)	0	00	00	⅝ mile.
Southwest corner of Edmonds house	83	52	..	35 yards.
REFERENCE STATION	99	06	10	16.56 meters.
North chimney on house	149	51	..	¾ mile.
North chimney of house	217	13	..	1¼ miles.
Chimney of house	245	25	..	1¼ miles.
Stack of cannery at Sherwood	261	14	..	1¼ miles.
Cupola on house	281	45	..	1⅝ miles.
East gable of tin-roof barn	316	23	..	1¼ miles.
East gable of McQuay's oysterhouse	357	49	..	⅝ mile.

WARRIOR.

General locality.—Western shore of Harris Creek on Indian Point, about 2½ miles north of Change Point. (See Chart No. 33.)

Immediate locality.—Observed station is in cultivated field about 7 feet above high water, 20 yards southeast of shore, 14 yards southeast of top of bank with uniform slope to shore, and 40 yards northeast of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Edmond" (N 29° 15′ E)	0	00	00	⅝ mile.
South gable of barn	14	20	..	½ mile.
East chimney of house	18	11	..	1 mile.
North chimney of house	55	57	..	⅝ mile.
South chimney of house	99	22	..	½ mile.
Chimney of house	119	02	..	1 mile.
North gable of barn	131	35	..	2 miles.
North chimney of house	234	03	..	¾ mile.
Cupola on house	297	12	..	1¾ miles.
South chimney of house	307	56	..	2 miles.
West gable of tin-roof barn	323	41	..	2¼ miles.
Chimney on McQuay oysterhouse	354	38	..	1⅛ miles.

BALL.

General locality.—Eastern shore of Harris Creek about ¾ mile south-southeast of Indian Point and 1 mile north of Turkey Neck Point. (See Chart No. 33.)

Immediate locality.—Observed station is in cultivated field about 10 feet above high water, 15 yards east of shore, 8 yards from top of bank, and 50 yards north of a house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Eagle" (S 45° 39′ W)	0	00	00	1¼ miles.
North chimney of house	13	27	..	1⅛ miles.
South chimney of brick house	72	08	..	1¼ miles.
Chimney of house	91	35	..	1¾ miles.
Stack of cannery at Sherwood	93	42	..	1¾ miles.
Cupola on house	101	21	..	2½ miles.
North gable of barn	168	26	..	400 yards.
Northwest corner of Ball house	294	38	..	49 yards.
North gable of house	310	45	..	⅜ mile.
Right tangent of Turkey Point	322	24	..	1⅛ miles.
Stack of cannery at Tilghman Island	353	02	..	3⅛ miles.

HEN.

General locality.—Eastern shore of Harris Creek on Turkey Neck Point about ¾ mile north of Change Point. (See Chart No. 33.)

Immediate locality.—Observed station is in a cultivated field about 8 feet above high water, 9 yards southeast of edge of bank, 17 yards east by north of point of bank at line of trees, and 16 yards east-northeast of edge of bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Change" (S 6° 09′ E)	0	00	00	⅝ mile.
Nail in blaze in cedar tree	26	39	10	15.57 meters.
Nail in blaze in cedar tree	53	33	50	15.29 meters.
Stack of cannery	64	03	..	2¼ miles.
Lomax windmill	87	47	20	1½ miles.
Left peak of house with two chimneys	129	47	..	1 mile.
Left chimney of brick house	157	58	..	1⅞ miles.
Tower of house	166	56	..	3 miles.
Near chimney of house	193	46	..	1⅛ miles.
Near peak of house	245	28	..	⅜ mile.
Right peak of house	308	30	..	⅜ mile.
Nail in blaze in locust tree	350	22	00	22.85 meters.

CHANGE, 1910.

General locality.—Eastern shore of Harris Creek on Change Point about 1¼ miles east of Knapps Narrows. (See Charts Nos. 33 and 34.)

Immediate locality.—Observed station is in cultivated field about 8 feet above high water, 45 yards north-northeast of extreme end of point, 55 yards northwest of edge of bank, 35 yards east of edge of bank, 70 yards southeast by south of corner of wire fence, and 70 yards south-southwest of wire fence.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Nelson 3" (S 53° 21′ E)	0	00	00	.....	1⅞ miles.
"Windmill"	5	53	50	.....	9¼ miles.
Near peak of house	25	43	..	.....	7 miles.
Chimney of house	89	04	..	.....	2½ miles.
Near peak of house	117	29	..	.....	2½ miles.
Near peak of storehouse on Tilghman Island Wharf	123	16	..	.....	1¾ miles.
Near peak of house	131	01	..	.....	2⅛ miles.
Near chimney of brick house	210	58	..	.....	2⅛ miles.
Right chimney of house	278	54	..	.....	¼ mile.
Near peak of house	307	44	..	.....	⅛ mile.

CHEF.

General locality.—Eastern shore of Chesapeake Bay on Cook Point at southern side of entrance to Choptank River about 4 miles east of Sharps Island. (See Charts Nos. 33, 36, and 37.)

Immediate locality.—Observed station is in cultivated field about 8 feet above high water, 30 yards inside of fringe of trees parallel with shore, 45 yards southwest of eastern end of fringe of trees, 70 yards east of western end of fringe of trees, and 190 yards northwest by north of gate in fence running east and west.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Sharps Island Light" (N 84° 01′ W)	0	00	00	.....	4½ miles.
Nail in blaze in wild-cherry tree (4 inches diameter)	18	41	10	.....	31.43 meters.
Nail in blaze in locust tree (5 inches diameter)	46	09	20	.....	28.53 meters.
Large chimney of house	51	57	..	.....	4¾ miles.
Nail in blaze in locust tree (5 inches diameter)	79	02	50	.....	29.94 meters.
Left peak of house	81	21	..	.....	5 miles.
Near peak of barn	98	22	..	.....	7½ miles.
Nail in blaze in locust tree (6 inches diameter)	99	50	30	.....	43.16 meters.
Near chimney on largest building in group	127	24	..	.....	6 miles.
Left end of house	150	48	30	.....	7⅝ miles.
"Choptank River Light"	158	02	10	.....	5⅞ miles.
Lone persimmon tree	165	47	..	.....	231 yards.
"Large Water Tank"	177	43	10	.....	6⅜ miles.
Right chimney outside house	194	02	..	.....	2¼ miles.
Chimney on right one of two houses	222	37	..	.....	¼ mile.
Right peak of barn	251	19	..	.....	¼ mile.
Right peak of hotel on Sharps Island	341	27	..	.....	4 miles.

DOG.

General locality.—Eastern shore of Cummings Creek about ⅜ mile north of Harris Creek. (See Chart No. 34.)

Immediate locality.—Observed station is on marsh about on level with high water, and 16 yards west of clump of myrtle bushes. Cement monument marking reference station is 14.43 meters S 65° 30′ E of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 5 inches above surface of ground.

References.—	°	′	″		
"Cummings" (S 49° 51′ W)	0	00	00	.....	⅜ mile.
East gable of old barn	75	03	..	.....	¾ mile.
West chimney of house	110	30	..	.....	1¼ miles.
South chimney of house	129	00	..	.....	¾ mile.
South chimney of house	133	50	..	.....	⅜ mile.
Nail in blaze in pine tree (12 inches diameter)	136	59	30	.....	35.70 meters.
REFERENCE STATION	244	38	10	.....	14.43 meters.
West chimney of house	325	16	..	.....	1¼ miles.
East chimney of house	332	55	..	.....	1¼ miles.
East edge of McQuay's oysterhouse	342	26	..	.....	⅞ mile.
Chimney of house	348	58	..	.....	2¼ miles.

RABBIT.

General locality.—Western shore of Harris Creek on eastern side of entrance to Cummings Creek about ¾ mile northeast of Little Neck Point. (See Chart No. 34.)

Immediate locality.—Observed station is in cultivated field, about 8 feet above high water, 6 yards north of shore, 2 yards north of top of bank, and 50 yards east of the extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Koot" (S 52° 52′ E)	0	00	00	.....	¼ mile.
Nail in blaze in pine tree (6 inches diameter)	20	16	00	.....	3.17 meters.
North gable of barn	67	14	..	.....	½ mile.
North chimney of house	86	05	..	.....	1 mile.
Stack of cannery at Sherwood	118	15	..	.....	2 miles.
Nail in blaze in pine tree (6 inches diameter)	123	04	30	.....	8.73 meters.
Left edge of barn	182	34	..	.....	1¼ miles.
Left gable of old barn	281	42	..	.....	400 yards.
Chimney of small house	315	28	..	.....	1¼ miles.
Flagstaff on Bozman Hall	346	26	..	.....	⅞ mile.

GRACE.

General locality.—Northwestern shore of Harris Creek about ⅜ mile east of entrance to Cummings Creek, and 1 mile northeast of Little Neck Point. (See Chart No. 34.)

Immediate locality.—Observed station is on marsh point about 1 foot above high water, and 5 yards north of the extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Rabbit" (S 82° 20′ W)	0	00	00	.....	¼ mile.
Nail in blaze in locust tree (12 inches diameter)	85	01	10	.....	4.64 meters.
North chimney of Miller house	145	33	..	.....	1 mile.
Chimney of small house	165	31	..	.....	¾ mile.
South chimney of house	176	05	..	.....	½ mile.
North chimney of house	183	08	..	.....	¾ mile.
East chimney of house	220	03	..	.....	½ mile.
West chimney of house	249	24	..	.....	¾ mile.
North chimney of Bridges house	295	26	..	.....	⅜ mile.
East gable of McQuay's oysterhouse	335	44	..	.....	1 mile.

MINK.

General locality.—Western shore of Harris Creek about ½ mile northeast of entrance to Cummings Creek and ¼ mile northwest of town of Bozman. (See Chart No. 34.)

Immediate locality.—Observed station is on marsh point about 1 foot above high water, 2 yards northwest of shore, and 40 yards northeast of wire and board fence. Cement monument marking reference station is 8.73 meters N 53° 51′ W of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 6 inches above surface of ground.

References.—	°	′	″	
"Harrison" (N 16° 58′ E)	0	00	00	¼ mile.
South chimney of Harrison house	10	03	..	2 miles.
South chimney of Miller house	32	35	..	⅞ mile.
North chimney of house	45	04	..	½ mile.
Chimney of house	86	35	..	½ mile.
Flagpole on Bozman Hall	135	42	..	½ mile.
East chimney of house	155	07	..	¾ mile.
Chimney of small house	182	28	..	¾ mile.
North chimney of Bridges house	190	39	..	1 mile.
Nail in blaze in locust tree (5 inches diameter)	240	57	10	12.21 meters.
REFERENCE STATION	289	10	20	8.73 meters.
Nail in blaze in mulberry tree (12 inches diameter)	298	59	30	9.41 meters.

HARRISON.

General locality.—Western shore of upper Harris Creek about ¾ mile north-northwest of town of Bozman. (See Chart No. 34.)

Immediate locality.—Observed station is in edge of marsh in northeast corner of old apple orchard about 2 feet above high water, 11 yards northwest of shore, 23 yards west of extreme end of point, and 80 yards south-southeast of a house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Clump" (N 32° 34′ E)	0	00	00	⅜ mile.
North chimney of Miller house	30	14	..	½ mile.
South chimney of house	51	15	..	¾ mile.
North chimney of house	58	30	..	⅜ mile.
Chimney of house	107	57	..	⅜ mile.
Chimney of small house	120	55	..	⅞ mile.
North gable of barn	137	19	..	¾ mile.
Nail in blaze in apple tree (8 inches diameter)	173	47	20	9.24 meters.
Center of old gristmill burr partly embedded in ground and about 4 feet diameter	270	32	..	4.87 meters.
Northeast corner of Harrison house	301	51	..	80 yards.

CLUMP.

General locality.—Western shore of upper Harris Creek on a point about ¾ mile north of town of Bozman. (See Chart No. 34.)

Immediate locality.—Observed station is on marsh about 2 feet above high water, 6 yards west of shore, and 15 yards east of fringe of locust trees and vines.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Lawn" (N 0° 56′ W)	0	00	00	.....	¼ mile.
South chimney of Harrison house	28	44	..	.....	1¼ miles.
South gable of Harrison barn	31	41	..	.....	1¼ miles.
South chimney of small house	97	09	..	.....	¼ mile.
South chimney of house	108	42	..	.....	1⅛ miles.
North chimney of house	150	09	..	.....	⅜ mile.
North chimney of house	172	07	..	.....	½ mile.
"Bozman M. E. Church spire"	178	12	..	.....	1 mile.
South chimney of Harrison lower house	221	48	..	.....	¼ mile.
Nail in blaze in hackberry tree (6 inches diameter)	280	58	50	.....	17.75 meters.

MILLER.

General locality.—Eastern shore of upper Harris Creek about 1 mile north of town of Bozman. (See Chart No. 34.)

Immediate locality.—Observed station is in cultivated field about 15 feet above high water, 65 yards east of shore, and half way between a barn and a house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Pink" (S 30° 58′ W)	0	00	00	.....	⅜ mile.
East gable of barn	50	20	..	.....	1¼ miles.
Left corner of Seth bathhouse	92	44	..	.....	⅜ mile.
South chimney of house	106	48	..	.....	1¼ miles.
Southwest corner of Miller barn	151	31	..	.....	25.28 meters.
West gable of barn	245	51	..	.....	¾ mile.
South chimney of Harrison house	270	45	..	.....	¼ mile.
Northwest corner of Miller house	327	46	..	.....	29.23 meters.
West chimney of house	333	51	..	.....	1 mile.

PINK.

General locality.—Eastern shore of upper Harris Creek about ⅝ mile north of town of Bozman. (See Chart No. 34.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 6 yards southwest of shore, 12 yards southeast of extreme end of point, and 200 yards southwest of a house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 7 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Miller" (N 30° 57′ E)	0	00	00	.....	⅜ mile.
North chimney of Miller house	1	44	..	.....	⅜ mile.
Nail in blaze in twin oak tree (18 inches diameter)	54	42	..	.....	9.63 meters.
North chimney of Bridges house	191	10	..	.....	1 mile.
East gable of barn	271	02	..	.....	¾ mile.
South chimney of house	280	19	..	.....	1 mile.
Cupola on tin-roof barn	319	36	..	.....	1¾ miles.
South gable of house	335	51	..	.....	2½ miles.
South chimney of Harrison house	342	23	..	.....	1¼ miles.

BOZMAN.

General locality.—Eastern shore of Harris Creek, about ¼ mile northwest of town of Bozman and ¾ mile east of entrance to Cummings Creek. (See Chart No. 34.)

Immediate locality.—Observed station is in a cleared space about 8 feet above high water, 25 feet southeast of top of vertical bank 8 feet high, and 16 yards north of pine woods.

Marks.—Observed station is center point of triangle on standard cement monument projecting 7 inches above surface ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Koot" (S 71° 40′ W)	0	00	00	½ mile.
South chimney of house	74	22	..	1 mile.
South chimney of house	77	10	..	1⅜ miles.
North chimney of Harrison house	93	19	..	½ mile.
Cupola on tin-roof barn	106	41	..	2 miles.
Chimney of house	145	31	..	¼ mile.
South chimney of house	176	17	..	¼ mile.
Nail in blaze in locust tree (4 inches diameter)	225	41	30	24.93 meters.
Nail in blaze in pine tree (12 inches diameter)	238	40	10	22.47 meters.
North chimney of Bridges house	347	31	..	1 mile.

BOZMAN M. E. CHURCH SPIRE.

General locality.—Southeastern shore of Harris Creek in the town of Bozman, on the northwest side of county road leading to Neavitt. (See Chart No. 34.)

Immediate locality.—Observed station is on edifice known as Bozman M. E. Church.

Marks.—Observed station is center of spire on Bozman M. E. Church.

References.—None necessary.

KOOT.

General locality.—Southeastern shore of Harris Creek on a point of land between two coves, about ⅜ mile southeast of entrance to Cummings Creek, and ½ mile west of town of Bozman. (See Chart No. 34.)

Immediate locality.—Observed station is in cultivated field about 6 feet above high water, 10 yards south of shore, 6 yards south of edge of bank 6 feet high, and 200 yards north of a graveyard.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Fox" (S 71° 28′ W)	0	00	00	¼ mile.
Nail in blaze in oak tree (6 inches diameter)	34	03	..	7.86 meters.
North chimney of house	68	34	..	1¼ miles.
South gable of old barn	86	28	..	¼ mile.
South chimney of Miller house	150	42	..	1⅛ miles.
Chimney of small house	161	30	..	¾ mile.
West chimney of house	178	14	..	1 mile.
Chimney of small house	193	32	..	1 mile.
Flagstaff on Bozman Hall	214	42	..	½ mile.
Lone cherry tree in Bridges graveyard	282	30	..	200 yards.
North chimney of Bridges house	307	06	..	300 yards.
Nail in blaze in locust tree (6 inches diameter)	347	25	50	15.29 meters.

FOX.

General locality.—Southeastern shore of Harris Creek on a point of land between two coves about ¼ mile south of entrance to Cummings Creek, and ½ mile northeast of Little Neck Point. (See Chart No. 34.)

Immediate locality.—Observed station is on marsh point about 1 foot above high water, and 26 yards south of the extreme north end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 7 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Koot" (N 71 °28′ E)	0	00	00	⅜ mile.
North chimney of Bridges kitchen	26	46	..	¾ mile.
North chimney of house	150	04	..	¾ mile.
East gable of McQuay oyster house	175	43	..	½ mile.
Smoke stack at Sherwood	181	13	..	2¼ miles.
East gable of barn	217	41	..	1 mile.
North chimney of house	234	01	..	1¼ miles.
South chimney of house	265	55	..	1 mile.
South chimney of house	289	43	..	1⅜ miles.
North chimney of old house	321	09	..	1⅜ miles.
Chimney of small house	347	12	..	1¼ miles.
North chimney of house	358	58	..	1 mile.

NELSON 3.

General locality.—Northern shore of Choptank River on Nelson Island, between the entrances to Harris and Broad Creeks. (See Chart No. 34.)

Immediate locality.—Observed station is on southwest point of island on marsh about 2 feet above high water, 28 yards north-northeast of extreme end of point, 45 yards northwest of edge of marsh, and 14 yards east of marsh. Cement monument marking reference station is 32.27 meters N 32° 05′ E of observed station.

Marks.—Observed station is center of nail in 3-inch square stub in tile pipe flush with ground. Reference station is center point of triangle on standard cement monument projecting 6 inches above surface of ground.

References.—

	°	′	″	
"Choptank River Light" (S 56° 09′ E)	0	00	00	5½ miles.
"Large Water Tank"	10	09	50	7½ miles.
Right chimney of house	31	48	..	7 miles.
Near chimney outside of house	45	44	..	5¾ miles.
Near peak of barn on Cook Point	67	40	..	5¼ miles.
Left peak of hotel on Sharps Island	98	03	..	7⅝ miles.
"Sharps Island Light"	109	04	20	7⅛ miles.
Chimney of house	137	36	..	4 miles.
Stack of cannery at Tilghman Island	153	43	..	3½ miles.
Windmill at Tilghman Island	155	12	..	3½ miles.
Chimney of house on Change Point	185	37	..	1¾ miles.
Left peak of house	197	50	..	1½ miles.
Chimney of house	254	10	..	2⅝ miles.
"St. Michaels Church Spire"	259	55	10	6¼ miles.
REFERENCE STATION	268	13	20	32.27 meters.
Left peak of building	293	43	..	2⅛ miles.
Near peak of house with three chimneys	335	18	..	3 miles.

ANNETTE.

General locality.—Western shore of Broad Creek about ¾ mile north of Nelson Point, and on south side of entrance to Balls Creek. (See Chart No. 34.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, and 4 yards west of shore. Cement monument marking reference station is 9.39 meters N 75° 59′ W of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 3 inches above surface of ground.

References.—

	°	′	″	
"Myrtle" (N 15° 29′ E)	0	00	00	⅝ mile.
South chimney of house	18	39	..	3⅝ miles.
South chimney of house	29	53	..	3¾ miles.
South gable of barn	35	01	..	3½ miles.
Chimney of house	36	35	..	3½ miles.
South gable of barn	72	54	..	2 miles.
West chimney of house	102	19	..	3⅜ miles.
"Choptank River Light"	116	34	40	6¼ miles.
Water tank at Castle Haven	123	54	..	8¼ miles.
North gable of barn on Todd Point	148	31	..	6½ miles.
Nail in blaze in cedar tree (10 inches diameter)	187	26	00	11.37 meters.
Nail in blaze in cedar tree (10 inches diameter)	235	06	30	16.81 meters.
REFERENCE STATION	268	29	40	9.39 meters.

MYRTLE.

General locality.—Western shore of Broad Creek about 1¼ miles north of Nelson Point and ¼ mile north of Balls Creek. (See Chart No. 34.)

Immediate locality.—Observed station is on marsh point about 1 foot above high water and 4 yards northwest of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Annette" (S 15° 29′ W)	0	00	00	⅝ mile.
East gable of house	18	33	..	⅝ mile.
Nail in blaze in pine tree (4 inches diameter)	99	49	00	11.51 meters.
Nail in blaze in locust tree (4 inches diameter)	169	57	..	5.09 meters.
South chimney of house	215	04	..	3¼ miles.
Chimney of house	225	21	..	3⅜ miles.
Chimney of house	241	26	..	2 miles.
West gable on barn	255	40	..	2⅛ miles.
North chimney of house	268	45	..	2½ miles.
Largest tree on Royston Island	300	41	..	2⅞ miles.
Water tank at Castle Haven	307	09	..	8¼ miles.

COAL.

General locality.—Western shore of Broad Creek about 2 miles north of Nelson Point and 1 mile west of Deep Neck Point. (See Chart No. 34.)

Immediate locality.—Observed station is in cultivated field about 4 feet above high water, 12 yards northwest of shore, 4 yards north of small lone cedar tree, and 200 yards north of pine woods.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Myrtle" (S 44° 23′ W)	0	00	00	⅞ mile.
South gable of Bridges barn	136	22	..	¾ mile.
South chimney of Bridges house	152	03	..	¼ mile.
North chimney of house	167	18	..	1½ miles.
South chimney of house	170	31	..	2¼ miles.
Chimney of small house	203	48	..	2⅜ miles.
Chimney of small house	209	52	..	2⅜ miles.
Chimney of small house	272	47	..	1½ miles.
Largest tree on Royston Island	288	22	..	3 miles.
Left tangent of Nelson Island	331	41	..	2⅜ miles.

TOBE.

General locality.—Western shore of Broad Creek on point at southern side of entrance to Leadenham Creek. (See Chart No. 34.)

Immediate locality.—Observed station is in edge of cultivated field about 2 feet above high water, 19 yards south of shore, and back of a fringe of myrtle bushes.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Ross" (S 68° 15′ E)	0	00	00	1⅜ miles.
North edge of house	6	29	..	1¼ miles.
South chimney of Bridges house	43	44	..	¼ mile.
North gable of Bridges barn	52	02	..	⅜ mile.
East chimney of house	179	12	..	¼ mile.
South chimney of old deserted house	264	38	..	¾ mile.
Cupola on "Beverly" house	297	12	..	2½ miles.
North chimney of house	342	28	..	3 miles.

WIRE.

General locality.—Southern shore of Leadenham Creek about 1 mile southwest of Mulberry Point, and ¼ mile southwest of Broad Creek. (See Chart No. 34.)

Immediate locality.—Observed station is in cultivated field about 5 feet above high water, 4 yards southeast of shore at top of a vertical bank 5 feet high, and 125 yards west of board fence and row of cedar trees. Cement monument marking reference station is 18.90 meters S 23° 36′ E of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 6 inches above surface of ground.

References.—	°	′	″	
"Tobe" (N 64° 26′ E)	0	00	00	¼ mile.
South chimney of Bridges house	55	31	..	⅜ mile.
REFERENCE STATION	91	58	00	18.90 meters.
North gable of barn	160	41	..	½ mile.
Chimney of house	238	19	..	¾ mile.
North chimney of Fairbank house	249	09	..	⅜ mile.
South chimney of house	256	04	..	1 mile.
South chimney of house	320	50	..	1 mile.
Chimney of small cabin	343	22	..	⅞ mile.

BLANCO.

General locality.—Southern shore of Leadenham Creek about ⅝ mile west of Broad Creek entrance to creek and ¾ mile southwest of entrance to Grace Creek. (See Chart No. 34.)

Immediate locality.—Observed station is in a cultivated field about 9 feet above high water and 13 yards south of edge of vertical bank at shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Fairbanks" (N 30° 58′ E)	0	00	00	⅜ mile.
West chimney of house	28	00	..	1¼ miles.
West gable of house	37	03	..	3 miles.
North gable of barn	136	49	..	¼ mile.
South chimney of house	308	51	..	½ mile.
East chimney of house	322	07	..	¾ mile.
Chimney of house	328	19	..	¾ mile.
West chimney of house	356	26	..	⅜ mile.

NED.

General locality.—Southern shore of Leadenham Creek about 1⅛ miles west of Broad Creek entrance to creek and opposite entrance to Caulk Cove. (See Chart No. 34.)

Immediate locality.—Observed station is on marsh point about 1 foot above high water, 5 yards east of shore, 19 yards south of the extreme end of marsh point, and north of a heavy pine woods.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Caulk" (N 53° 48′ E)	0	00	00	¼ mile.
West chimney of house	15	23	..	⅝ mile.
Nail in blaze in pine tree (12 inches diameter)	123	06	50	10.47 meters.
Nail in blaze in pine tree (12 inches diameter)	177	59	10	7.52 meters.
East chimney of house	226	43	..	⅜ mile.
Chimney of small house	262	10	..	½ mile.
East chimney of house	286	20	..	¾ mile.

CAULK.

General locality.—Northern shore of Leadenham Creek about ¾ mile west of Broad Creek entrance to creek and ¼ mile east-southeast of entrance to Caulk Cove. (See Chart No. 34.)

Immediate locality.—Observed station is on marsh on a wooded shore about 1 foot above high water and 3 yards north of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Fairbanks" (N 84° 28′ E)	0	00	00	⅜ mile.
North gable of Bridges barn	28	28	..	1 mile.
West chimney of house	125	30	..	1⅜ miles.
East chimney of house	172	52	..	⅝ mile.
Nail in blaze in pine tree (5 inches diameter)	216	17	00	9.74 meters.
Nail in blaze in pine tree (6 inches diameter)	339	45	20	24.77 meters.
West chimney of house	356	03	..	⅜ mile.

FAIRBANKS.

General locality.—Northern shore of Leadenham Creek about ½ mile west of Broad Creek entrance to creek and on first point southwest of entrance to Grace Creek. (See Chart No. 34.)

Immediate locality.—Observed station is on marsh point about 75 yards south of a house and 13 yards north of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is cement of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Pine" (N 50° 00′ E)	0	00	00	⅜ mile.
South corner of small house	33	48	..	3 miles.
West gable of Bridges barn	80	22	..	¾ mile.
West chimney of house	138	27	..	½ mile.
South gable of corn crib	257	04	..	100 yards.
East chimney of house	300	34	..	75 yards.
South gable of barn	317	19	..	300 yards.

PINE.

General locality.—Northern shore of Leadenham Creek on point between entrances to Leadenham Creek and Grace Creek, and about ½ mile west of Broad Creek. (See Chart No. 34.)

Immediate locality.—Observed station is on wooded shore about 5 feet above high water, 5 yards west of shore, 60 yards north of the extreme end of point, and at intersection of two lanes cut through woods. Cement monument marking reference station is 9.52 meters N 67° 25′ W of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Fairbanks" (S 50° 00′ W)	0	00	00	⅜ mile.
REFERENCE STATION	52	35	00	9.52 meters.
"Cabin" (staff on west end of cabin)	161	49	00	⅝ mile.
West chimney of house	207	11	..	⅝ mile.
North chimney of house	219	50	..	2⅜ miles.
South gable of small house	235	06	..	3¾ miles.
South gable of house	274	20	..	2⅛ miles.
South chimney of Bridges house	284	24	..	¾ mile.
North gable of Bridges barn	290	34	..	¾ mile.
East chimney of house	336	13	..	¾ mile.

LUNA.

General locality.—Western shore of Grace Creek on a prominent point about ½ mile northwest of Broad Creek entrance to creek. (See Chart No. 34.)

Immediate locality.—Observed station is about 5 feet above high water, 5 yards north of shore, 11 yards west of the extreme end of point, and 3 yards east of a dense growth of small pine trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Cabin" (N 80° 51′ E)	0	00	00	¼ mile.
North chimney of house	19	07	..	⅜ mile.
South gable of barn	37	30	..	⅜ mile.
North gable of Bridges barn	92	10	..	1 mile.
Nail in blaze in pine tree (5 inches diameter)	188	48	10	3.29 meters.
Nail in blaze in pine tree (5 inches diameter)	256	00	00	2.61 meters.
West chimney of house	287	57	..	¼ mile.

CABIN.

General locality.—Eastern shore of Grace Creek about ⅓ mile north of Broad Creek entrance to creek. (See Chart No. 34.)

Immediate locality.—Observed station is on west gable of deserted cabin about 10 feet above high water, and 17 yards east of shore.

Marks.—Observed station is a twenty-penny wire nail driven 2 feet below the peak of west gable of a deserted cabin, and surmounted by a staff erected over nail.

References.—None necessary.

SKINNER.

General locality.—Western shore of Broad Creek at eastern side of entrance to Grace Creek, about ⅝ mile west of Mulberry Point. (See Chart No. 34.)

Immediate locality.—Observed station is on marsh point about 1 foot above high water, 3 yards northeast of shore, 42 yards east of the extreme end of point, and 40 yards southwest of a small clump of trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Ross" (S 45° 32′ E)	0	00	00	1¼ miles.
South chimney of house	5	48	..	2¼ miles.
North gable of house	21	10	..	2¼ miles.
West chimney of Bridges house	45	46	..	¾ mile.
North gable of Bridges barn	51	32	..	¾ mile.
East chimney of house	108	33	..	⅝ mile.
North chimney of house	163	55	..	½ mile.
South chimney of house	212	06	..	¾ mile.
Chimney of cabin	228	36	..	½ mile.
South gable of barn	272	26	..	¼ mile.
West chimney of house	318	07	..	2 miles

BALD.

General locality.—Western shore of Broad Creek on Mulberry Point on northern side of entrance to Leadenham Creek. (See Chart No. 34.)

Immediate locality.—Observed station is on marsh point about 1 foot above high water, 2 yards north of shore, 50 yards west of extreme east end of point, and 40 yards southeast of a rail fence. Cement monument marking reference station is 16.84 meters N 40° 26′ W of observed station. Cedar stub marking old triangulation station "Mulberry" is 22.46 meters N 52° 57′ E of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 7 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Old triangulation station "Mulberry" is nail in 2-inch cedar stub projecting 2 inches above surface of ground.

References.—

	°	′	″	
"Tobe" (S 57° 09′ W)	0	00	00	⅞ mile.
East gable of house	19	19	..	1¼ miles.
East chimney of house	47	05	..	¼ mile.
REFERENCE STATION	118	25	00	16.84 meters.
South chimney of Willey house	158	43	..	1⅛ miles.
Cupola on "Beverly" house	166	28	..	1¼ miles.
OLD TRIANGULATION STATION MULBERRY	175	48	40	22.46 meters.
Right tangent of north end of Willey Island	215	38	..	¾ mile.
Right tangent of marsh at Deep Neck Point	286	05	..	1⅛ miles.
North gable of Bridges barn	344	46	..	1 mile.

ROSE.

General locality.—Western shore of upper Broad Creek on a very prominent point about ⅜ mile north-northeast of Mulberry Point and ⅝ mile west-northwest of the south end of Hambleton Island. (See Chart No. 34.)

Immediate locality.—Observed station is on marsh point about 2 feet above high water, 4 yards west of end of point, and 20 yards east of point of pine woods.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Gram" (N 5° 29′ W)	0	00	00	½ mile.
South chimney of house	4	32	..	1¼ miles.
South chimney of Willis house	42	53	..	¾ mile.
Cupola on "Beverly" house	53	03	..	1 mile.
West chimney of "Beverly" tenant house	66	59	..	1⅛ miles.
West gable of house	111	08	..	1⅜ miles.
North chimney of house	136	32	..	2⅛ miles.
Right tangent of woods on Deep Neck Point	179	32	..	1⅞ miles.
Left tangent of Nelson Island	208	24	..	3¾ miles.
West gable on Bridges barn	225	04	..	1⅜ miles.
South chimney of house	232	29	..	⅜ mile.
North chimney of house	259	06	..	⅜ mile.
Cupola on barn	359	21	..	1¼ miles.

GRAM.

General locality.—Western shore of upper Broad Creek about ¾ mile north of Mulberry Point and about ½ mile west of upper end of Hambleton Island. (See Chart No. 34.)

Immediate locality.—Observed station is on marsh point about 2 feet above high water, 10 yards west of extreme east end of point, and about ¼ mile northeast of a house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Royal" (N 8° 49′ E)	0	00	00	⅜ mile.
North chimney of house	12	31	..	⅝ mile.
North chimney of Price house	41	36	..	¾ mile.
South chimney of Willey house	63	08	..	½ mile.
Cupola on "Beverly" house	66	45	..	¾ mile.
West chimney of house	96	11	..	1⅛ miles.
Right tangent of woods on Deep Neck Point	165	22	..	1⅝ miles.
North chimney of house	231	02	..	¼ mile.
South gable of Miller barn	313	28	..	2 miles.
South chimney of Harrison house	316	54	..	1⅞ miles.
Cupola on barn	344	46	..	¾ mile.
South chimney of house	353	26	..	¾ mile.

BENGAL.

General locality.—Western shore of upper Broad Creek about ¾ mile west of north end of Hambleton Island. (See Chart No. 34.)

Immediate locality.—Observed station is on narrow marsh point about 1 foot above high water, 4 yards south of shore, 55 yards west of extreme end of point, and north of a fringe of pine and cedar trees along bank. Cement monument marking reference station is 8.81 meters S 52° 34′ W of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 5 inches above surface of ground.

References.—

	°	′	″		
"Gram" (S 51° 52′ E)	0	00	00	.....	½ mile.
Nail in blaze in pine tree (18 inches diameter)	96	33	50	.....	11.68 meters.
REFERENCE STATION	104	26	10	.....	8.81 meters.
Nail in blaze in cedar stump 1 foot high (10 inches diameter)	109	01	00	.....	9.43 meters.
East chimney of Jump house	169	00	..	.....	¼ mile.
Belfry on Harrison outhouse	201	55	..	.....	1¼ miles.
South chimney of Harper house	216	54	..	.....	¾ mile.
Cupola on barn	251	54	..	.....	½ mile.
South chimney of house	266	18	..	.....	¾ mile.
"St. Michaels Water Tank"	268	51	..	.....	2 miles.
North chimney of house	293	15	..	.....	⅝ mile.
Cupola on "Beverly" house	326	00	..	.....	1¼ miles.
North chimney of house	343	15	..	.....	1½ miles.

EASTMAN.

General locality.—Western shore of upper Broad Creek about 1¼ miles west-northwest of north end of Hambleton Island. (See Chart No. 34.)

Immediate locality.—Observed station is on marsh point about 2 feet above high water, 12 yards south of extreme end of point, 3 yards northeast of clump of myrtle bushes, and 200 yards east of a house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Woodill" (N 23° 46′ W)	0	00	00	.....	⅜ mile.
Belfry on Harrison outhouse	4	06	..	.....	1 mile.
South gable of barn	12	36	..	.....	2 miles.
South chimney of Willis house	18	31	..	.....	1¼ miles.
Chimney of Burke house	22	59	..	.....	¾ mile.
North chimney of Harper house	38	29	..	.....	½ mile.
North chimney of house	82	43	..	.....	1 mile.
North chimney of house	124	09	..	.....	1⅛ miles.
Chimney of Sutton house	297	13	..	.....	200 yards.
East chimney of Jump house	327	23	..	.....	½ mile.

WOODILL.

General locality.—Western shore of upper Broad Creek about ¾ mile east of Bozman and 1½ miles northwest of Hambleton Island. (See Chart No. 34.)

Immediate locality.—Observed station is on wooded shore about 6 feet above high water, 8 yards southwest of shore, and 5 yards north of a pile of oyster shells.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Mars" (S 77° 03′ E)	0	00	00	.....	⅜ mile.
South chimney of house	8	38	..	.....	2⅜ miles.
Nail in blaze in pine tree (12 inches diameter)	104	16	20	.....	23.70 meters.
Nail in blaze in pine tree (12 inches diameter)	166	31	20	.....	16.21 meters.
Belfry on Harrison outhouse	238	54	..	.....	⅞ mile.
South chimney of house	251	54	..	.....	2 miles.

References—Continued.	°	′	″	
South chimney of Willis house	258	51	..	¾ mile.
Chimney of Burke house	272	07	..	½ mile.
North chimney of Harper house	305	59	..	⅜ mile.
Cupola on barn	327	48	..	¾ mile.
North chimney of house	350	00	..	1 mile.

DELTA.

General locality.—Western shore of upper Broad Creek about ¾ mile northeast of Bozman, and 1¾ miles northwest of Hambleton Island. (See Chart No. 34.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, 10 yards west of shore, and about 100 yards east of an orchard.

Marks.—Observed station is center point of triangle on standard cement monument projecting 7 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Willis" (N 13° 54′ E)	0	00	00	½ mile.
North chimney of Harper house	92	01	..	½ mile.
Cupola on "Beverly" house	103	01	..	2⅛ miles.
North chimney of house	109	34	..	2¾ miles.
North chimney of Jump house	209	09	..	¼ mile.
South gable of barn	341	14	..	1 mile.

MARION.

General locality.—Western shore of upper Broad Creek about 2½ miles northwest of Hambleton Island. (See Chart No. 34.)

Immediate locality.—Observed station is on east side of a tenant house in a cultivated field about 8 feet above high water, 12 yards south of shore, and 12 yards northwest of old open well.

Marks.—Observed station is center of hole drilled in east face of center one of three posts supporting east front of a tenant house, and surmounted by spindle erected over hole.

References.—None necessary.

WILLIS.

General locality.—Eastern shore of upper Broad Creek, on a point at northern side of entrance to a small creek about 2½ miles west of St. Michaels. (See Chart No. 34.)

Immediate locality.—Observed station is on marsh point at west edge of yard of a house about 1 foot above high water, 8 yards east of shore, 5 yards west of top of slope, about 4 feet higher than station, and 65 yards southwest of the southwest corner of a house.

Marks.—Observed station is center of 2-inch tile pipe projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe.

References.—

	°	′	″	
"Neptune" (S 15° 36′ E)	0	00	00	⅜ mile.
North chimney of house	37	51	..	½ mile.
North gable of house	41	18	..	½ mile.
"Marion" (staff on east side of house)	70	53	10	¼ mile.
Chimney on Harrison tenant house	70	55	..	¼ mile.
South chimney of Harrison house	113	36	..	¼ mile.
South chimney of Miller house	125	01	..	⅝ mile.
South chimney of Harrison house	165	07	..	1¼ miles.
Nail in blaze in cedar tree (15 inches diameter)	174	34	50	16.59 meters.
South chimney of house	182	18	..	½ mile.
Southwest corner of Willis house	246	43	..	63 yards.
Nail in blaze in cedar tree (5 inches diameter)	302	55	50	11.81 meters.
Chimney of house	356	35	..	⅜ mile.

NEPTUNE.

General locality.—Eastern shore of upper Broad Creek about 2 miles north of Mulberry Point and 2 miles west of St. Michaels. (See Chart No. 34.)

Immediate locality.—Observed station is in cultivated garden about 7 feet above high water, 10 yards north of shore, 20 yards east of the extreme end of point, 2 yards north of top of bank with uniform slope to shore, and 40 yards west of a house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Venus" (S 17° 02′ E)	0	00	00	⅛ mile.
North chimney of house	72	41	..	½ mile.
Nail in blaze in locust tree (5 inches diameter)	101	55	00	8.67 meters.
Chimney of Harrison tenant house	141	01	..	⅜ mile.
Belfry on Harrison outhouse	153	54	..	⅝ mile.
South gable of house	171	23	..	1¼ miles.
West chimney of Willis house	186	57	..	⅜ mile.
North chimney of house	222	44	..	2 miles.
Chimney of Burke house	287	38	..	40 yards.

VENUS.

General locality.—Eastern shore of upper Broad Creek about ½ mile north of entrance to Edgar Cove. (See Chart No. 34.)

Immediate locality.—Observed station is on wooded point about 6 feet above high water and 3 yards northeast of edge of a vertical bank 6 feet high. Cement monument marking reference station is 13.28 meters S 79° 28′ E of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Delta" (N 83° 41′ W)	0	00	00	¼ mile.
South chimney of Miller house	38	50	..	1 mile.
Belfry on Harrison outhouse	45	34	..	¾ mile.
South gable of barn	55	58		1¼ miles.
Chimney of Burke house	77	11	..	⅛ mile.
Nail in blaze of twin oak tree (24 inches diameter)	136	06	10	14.17 meters.
REFERENCE STATION	184	13	25	13.28 meters.
Nail in blaze of oak tree (5 inches diameter)	195	36	50	3.48 meters.
West gable of Sutton barn	289	11	..	¾ mile.
South chimney of house	336	36	..	½ mile.

MARS.

General locality.—Eastern shore of upper Broad Creek about 1 mile northwest of north end of Hambleton Island. (See Chart No. 34.)

Immediate locality.—Observed station is on marsh about 2 feet above high water and 7 yards east of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Royal" (S 69° 17′ E)	0	00	00	½ mile.
North chimney of house	3	51	..	1 mile.
North gable of corncrib	105	52	..	½ mile.
West chimney of Sutton house	136	00	..	½ mile.
Right corner of Eastman bungalow	147	10	..	⅝ mile.
South chimney of house	183	24	..	¾ mile.
Chimney of Harrison tenant house	210	33	..	1 mile.
South chimney of house	232	05	..	⅜ mile.
North chimney of house	333	35	..	½ mile.

ROYAL.

General locality.—Eastern shore of upper Broad Creek about ½ mile northwest of north end of Hambleton Island. (See Chart No. 34.)

Immediate locality.—Observed station is on marsh point about 1 foot above high water, 5 yards northeast of shore, 45 yards south of a lone leaning cedar tree.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Mars" (N 69° 16′ W)	0	00	00	½ mile.
North chimney of house	1	57	..	1¼ miles.
Nail in blaze in red oak tree (3 feet diameter)	92	31	00	76.08 meters.
West chimney of house	113	59	..	¼ mile.
South chimney of "Beverly" house	178	12	..	1 mile.
Right tangent of woods on Deep Neck Point	247	53	..	2 miles.
North chimney of house	273	53	..	⅝ mile.
North chimney of Sutton house	338	34	..	1 mile.
West chimney of Jump house	348	18	..	1 mile.

GRAVE.

General locality.—Eastern shore of upper Broad Creek on point of mainland between Broad Creek and Back Creek about ⅛ mile west of north end of Hambleton Island. (See Chart No. 34.)

Immediate locality.—Observed station is on marsh point about 2 feet above high water, 11 yards northeast of shore, and about ¼ mile southwest of a house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Ray" (S 26° 29′ E)	0	00	00	½ mile.
Right tangent of woods Deep Neck Point	31	14	..	1¾ miles.
North chimney of house	83	25	..	⅝ mile.
South gable of barn	123	20	..	1¼ miles.
North chimney of Jump house	132	30	..	1⅜ miles.
South chimney of house	172	29	..	⅜ mile.
South chimney of Price house	249	57	..	¼ mile.
Cupola on "Beverly" house	300	07	..	¾ mile.
North chimney of Willey house	309	23	..	¼ mile.

RAY.

General locality.—Eastern shore of Broad Creek on western side of Hambleton Island about ½ mile north of the south end of island, and ⅞ mile northeast of Mulberry Point. (See Chart No. 34.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, 4 yards east of shore, and 13 yards west of fringe of small trees at top of bank near edge of cultivated field.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of marsh. Subsurface mark is center of a 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Willey" (S 7° 15′ E)	0	00	00	⅜ mile.
Right tangent of woods Deep Neck Point	23	27	..	1⅜ miles.
West gable of Bridges barn	55	34	..	2 miles.
East chimney of house	73	30	..	1 mile.
North chimney of house	109	33	..	¾ mile.
North chimney of house	126	25	..	1¾ miles.
South chimney of house	159	58	..	1¼ miles.
Nail in blaze in cedar tree (6 inches diameter)	245	59	10	11.08 meters.
Nail in blaze in wild cherry tree (7 inches diameter)	303	17	50	20.52 meters.

WILLEY.

General locality.—Eastern shore of Broad Creek on southern end of Hambleton Island about ⅝ mile north of Cedar Point. (See Chart No. 34.)

Immediate locality.—Observed station is in cultivated field about 15 feet above high water, and 50 yards north of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Bald" (S 87° 48′ W)	0	00	00	¾ mile.
North chimney of house	39	42	..	1 mile.
Chimney of house	57	22	..	2 miles.
South chimney of house	75	32	..	1⅛ miles.
Chimney of "Beverly" tenant house	117	34	..	⅞ mile.
Cupola on outhouse	189	21	..	¾ mile.
Chimney of house	194	37	..	1¼ miles.
West chimney of house	208	32	..	1¼ miles.
North gable of barn	230	19	..	2¼ miles.
Left tangent of Nelson Island	304	30	..	3⅜ miles.
East chimney of house	353	02	..	1⅞ miles.

JUDGE.

General locality.—Western shore of Back Creek on a prominent point on eastern side of Hambleton Island about ½ mile north of Edge Creek. (See Chart No. 34.)

Immediate locality.—Observed station is on marsh point about 2 feet above high water, 7 yards west of the extreme end of point, and 8 yards east of a cut inshore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Willey" (S 14° 47′ W)	0	00	00	½ mile.
Lone cedar tree	51	09	..	95 yards.
South chimney of Willey house	136	07	..	½ mile.
North chimney of house	142	22	..	¾ mile.
West chimney of "Beverly" house	164	37	..	½ mile.
East chimney of "Beverly" tenant house	204	55	..	⅜ mile.
Chimney of house	238	00	..	½ mile.
East chimney of house	265	10	..	⅜ mile.
North chimney of house	299	54	..	¾ mile.
Right edge of small house	328	18	..	3 miles.

THELMA.

General locality.—Western shore of Back Creek on northern part of Hambleton Island, about 1 mile north of Edge Creek. (See Chart No. 34.)

Immediate locality.—Observed station is in front yard of a house about 6 feet above high water, 3 yards west of shore, 20 yards southeast of a house, and nearly on line with south side of a house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Elmore" (N 23° 18′ E)	0	00	00	⅜ mile.
Chimney on oyster house	17	11	..	1⅛ miles.
Cupola on "Beverly" house	59	33	..	¼ mile.
West chimney of house	105	48	..	¾ mile.
North chimney of house	225	57	..	1¼ miles.
Nail in cherry tree (12 inches diameter)	235	51	50	14.47 meters.
Northeast corner of Willey house	296	30	30	17.78 meters.
North chimney of house	324	01	..	¼ mile.
"St. Michaels P. E. Church spire"	352	44	20	1⅝ miles.

ELMORE.

General locality.—Western shore of Back Creek, about ⅜ mile north of north end of Hambleton Island and 1¼ miles south of St. Michaels. (See Chart No. 34.)

Immediate locality.—Observed station is near edge of a cultivated field, about 6 feet above high water, 5 yards south of edge of vertical bank at shore, and 20 yards west of extreme end of point of marsh.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Beverly" (N 29° 48′ E)	0	00	00	¼ mile.
Chimney of house	11	31	..	1 mile.
Chimney of oyster house	20	30	..	¾ mile.
Chimney of house	27	51	..	½ mile.
Nail in blaze in cedar tree (12 inches diameter)	118	21	20	5.40 meters.
Cupola on "Beverly" house	136	42	..	¼ mile.
Nail in blaze in locust tree (5 inches diameter)	155	41	50	5.30 meters.
South chimney of Willey house	175	20	..	⅜ mile.
North chimney of house	211	..	..	¼ mile.
"St. Michaels Water Tank"	338	25	..	1⅜ miles.
"St. Michaels P. E. Church spire"	344	08	30	1¼ miles.

BEVERLY.

General locality.—Eastern shore of Back Creek, about ¾ mile south of St. Michaels, and ⅝ mile north of north end of Hambleton Island. (See Chart No. 34.)

Immediate locality.—Observed station is on sandy marsh point about 1 foot above high water, 8 yards northeast of shore and south of a heavy growth of small pine trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Ansley" (S 9° 09′ E)	0	00	00	.....	¼ mile.
North chimney of "Beverly" house	15	53	..	.....	½ mile.
North chimney of Willey house	36	43	..	.....	⅝ mile.
North gable of barn	51	28	..	.....	⅝ mile.
East gable of house	110	02	.		1 mile.
Chimney of small deserted house	114	57	..	.....	¾ mile.
Nail in root of cedar stump	154	50	..	.....	1.56 meters.
Nail in blaze in cedar tree (10 inches diameter)	243	21	20	.....	5.65 meters.
Chimney of house	277	31	..	.....	¼ mile.
North chimney of house	293	12	..	.....	⅜ mile.
Northeast peak of small outhouse	313	02	..	.....	½ mile.

SAMUEL.

General locality.—Eastern side of Back Creek on northern side of small creek, about 1 mile south of St. Michaels and ¾ mile northeast of north end of Hambleton Island. (See Chart No. 34.)

Immediate locality.—Observed station is on point near edge of cultivated field, about 6 feet above high water, 15 yards north of shell covered shore, and 30 yards northwest of extreme end of marsh point, and near a number of small cedar and locust trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Ansley" (S 20° 10′ W)	0	00	00	.....	¼ mile.
West chimney of "Beverly" kitchen	9	48	..	.....	⅝ mile.
North chimney of Willey house	16	12	..	.....	¾ mile.
North chimney of house	31	57	.	.....	½ mile.
Nail in blaze in locust tree (5 inches diameter)	99	48	20	.....	6.47 meters.
Nail in blaze in cedar tree (12 inches diameter)	188	22	00	..	13.64 meters.
Chimney of small house	215	22	..	.....	⅜ mile.
Chimney of oyster house	252	12	..	.....	250 yards.
North chimney of house	276	00	..	.....	¼ mile.
Chimney of old deserted house	317	21	..	.....	¾ mile.

ANSLEY.

General locality.—Eastern shore of Back Creek, about 1 mile south of St. Michaels, 1½ mile northeast of north end of Hambleton Island, and ⅛ mile south of entrance to a small creek. (See Chart No. 34.)

Immediate locality.—Observed station is on marsh point about 1 foot above high water, 3 yards south of shore and in center of triangle formed by three pine stubs driven flush with marsh to support theodolite. Cement monument marking reference station is 21.25 meters N 71° 13′ E of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Samuel" (N 20° 10′ E)	0	00	00	.....	¼ mile.
Nail in blaze in pine tree (12 inches diameter)	35	33	50	.....	18.74 meters.
REFERENCE STATION	51	02	40	.....	21.25 meters.
Nail in blaze in pine tree (18 inches diameter)	66	12	00	.....	12.72 meters.

References—Continued.	°	′	″		
Cupola on "Beverly" house	179	34	..	.....	¼ mile.
North chimney of Willey house	205	52	..	.....	½ mile.
North chimney of house	253	19	..	.....	⅜ mile.
South gable of barn	323	55	..	.....	⅝ mile.

HARPER.

General locality.—Eastern shore of Back Creek on a prominent point opposite north end of Hambleton Island about 1½ miles south of St. Michaels. (See Chart No. 34.)

Immediate locality.—Observed station is in the northwest corner of yard of a house about 4 feet above high water, 13 yards south of edge of a stone sea wall, and 55 yards northwest of a house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Judge" (S 3° 05′ E)	0	00	00	.....	⅜ mile.
Left tangent of Nelson Point	34	24	..	.....	4½ miles.
North chimney of Willey house	81	54	..	.....	¼ mile.
East chimney of house	115	40	..	.....	2½ miles.
South chimney of house	128	25	..	.....	¼ mile.
South gable of barn	180	40	..	.....	1¼ miles.
"St. Michaels Water Tank"	188	28	..	.....	1⅝ miles.
Nail in pecan tree (24 inches diameter)	237	42	40	.....	20.29 meters.
Northwest corner of "Beverly" kitchen	315	47	..	.....	54 yards.
Nail in leaning locust tree	348	34	..	.....	18.72 meters.

TAFT.

General locality.—Eastern shore of Back Creek about 2 miles south of St. Michaels, ¼ mile north of Edge Creek, and nearly opposite extreme eastern point of Hambleton Island. (See Chart No. 34.)

Immediate locality.—Observed station is in cultivated field about 7 feet above high water, 12 yards east of shore, 15 yards north of edge of a bank 6 feet above marsh, and 5 yards east of edge of bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Hopkins" (S 9° 00′ E)	0	00	00	.....	⅜ mile.
Nail in blaze in cedar tree (10 inches diameter)	34	26	00	.....	13.43 meters.
South chimney of Willey house	144	19	..	.....	⅝ mile.
North chimney of house	153	14	..	.....	⅞ mile.
North chimney of "Beverly" house	164	54	..	.....	½ mile.
East chimney of "Beverly" tenant house	190	23	..	.....	⅜ mile.
Chimney of house	239	16	..	.....	¼ mile.
West chimney of Hopkins house	283	21	..	.....	300 yards.
Nail in blaze in cedar tree (15 inches diameter)	356	21	..	.....	21.59 meters.

HOPKINS.

General locality.—Northern shore of Edge Creek on eastern side of entrance to Back Creek about ¾ mile north-northeast of Cedar Point. (See Chart No. 34.)

Immediate locality.—Observed station is in cultivated field about 8 feet above high water, 15 yards north of shore, 20 yards from three small cedar trees near shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Spencer" (S 43° 22′ E)	0	00	00	¾ mile.
North gable of barn	25	30	..	2½ miles.
Right tangent of pine woods on Deep Neck Point	84	37	..	1¼ miles.
Left edge of barn roof	107	32	..	2 miles.
Chimney of house	137	23	..	1½ miles.
South chimney of house	195	15	..	1¼ miles.
West chimney of "Beverly" house	205	21	..	⅞ mile.
West chimney of house	234	13	..	⅝ mile.
Chimney of house	336	04	..	1 mile.
South chimney of house	343	28	..	⅜ mile.

SPENCER.

General locality.—Northern shore of Edge Creek at western side of entrance to Solitude Creek about 1 mile east of Broad Creek. (See Chart No. 34.)

Immediate locality.—Observed station is on marsh point about 1 foot above high water, 4 yards northeast of shore, and 21 yards northwest of extreme end of point, with a long bar of oyster shells extending 65 yards into creek. Cement monument marking reference station is 11.22 meters N 8° 44′ E of observed station.

Marks.—Observed station is nail in 3-inch cedar stub projecting 4 inches above surface of marsh. Reference station is center point of triangle on standard cement monument projecting 5 inches above surface of ground.

References.—	°	′	″	
"Hopkins" (N 43° 22′ W)	0	00	00	¾ mile.
South gable of barn	36	01	..	¼ mile.
REFERENCE STATION	52	05	10	11.22 meters.
Chimney of house	96	18	..	⅞ mile.
West chimney of house	110	51	..	⅝ mile.
South chimney of house	180	45	..	1½ miles.
West chimney of house	201	47	..	1¼ miles.
Chimney of small house	243	19	..	1½ miles.
East chimney of house	306	49	..	2¼ miles.
East gable of house	316	57	..	2¾ miles.
South chimney of house	345	29	..	2 miles.

MARSHALL.

General locality.—Northern shore of Edge Creek opposite Elberts Cove about 1¼ miles east of Cedar Point at Broad Creek entrance to creek. (See Chart No. 34.)

Immediate locality.—Observed station is in cultivated field about 6 feet above high water, 16 yards northeast of shore, 3 yards northeast of an old row of fence posts, 13 yards northwest of wire fence and line of cedar trees, and 125 yards west of an old deserted house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 7 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Holly" (S 13° 25′ E)	0	00	00	½ mile.
West chimney of house	21	00	..	¾ mile.
North gable of house	62	58	..	1 mile.
North gable of barn	75	45	..	1¼ miles.

References—Continued.

	°	′	″	
East chimney of house	120	35	..	2¼ miles.
Chimney of house	162	45	..	1½ miles.
East chimney of house	176	04	..	⅜ mile.
Lone dead tree (18 inches diameter)	206	48	..	125 yards.
West chimney of old deserted house	288	17	..	125 yards.
Nail in blaze in cedar tree (5 inches diameter)	214	43	10	12.55 meters.
West chimney of house	340	56	..	1⅛ miles.

CLARK.

General locality.—Northern shore of Edge Creek on western side of entrance to Spencer Creek about 1⅝ miles east of Cedar Point. (See Chart No. 34.)

Immediate locality.—Observed station is in cultivated field behind a fringe of locust and cedar trees about 6 feet above high water, 17 yards north of shore, and 35 yards northwest of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Holly" (S 20° 12′ W)	0	00	00	⅜ mile.
East chimney of house	12	39	..	¾ mile.
Nail in blaze in locust tree (7 inches diameter)	72	11	..	7.58 meters.
East chimney of deserted house	97	34	..	¼ mile.
South chimney of house	142	23	..	½ mile.
West gable of Hammond wharf house	180	40	..	⅜ mile.
North chimney of house	216	23	..	¾ mile.
South gable of house	255	52	..	⅝ mile.
North chimney of house	276	48	..	1 mile.
West chimney of house	295	05	..	¾ mile.
West chimney of house	314	52	..	¾ mile.
Nail in blaze in cedar tree (6 inches diameter)	323	03	40	3.67 meters.

HOLLY.

General locality.—Southern shore of Edge Creek about 2 miles east of Broad Creek and nearly opposite entrance to Spencer Creek. (See Chart No. 34.)

Immediate locality.—Observed station is on marsh point about on level with high water, 13 yards north of a fringe of cedar trees and 100 yards west of a cove. Cement monument marking reference station is 11.68 meters S 14° 24′ W of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 5 inches above surface of ground.

References.—

	°	′	″	
"Marsh" (N 62° 58′ W)	0	00	00	⅜ mile.
East gable of barn	3	14	..	2¾ miles.
South chimney of house	28	36	..	1¼ miles.
Chimney of small house	44	51	..	¾ mile.
Chimney of deserted house	54	38	..	½ mile.
Chimney of large house	125	00	..	¾ mile.
South chimney of house	162	29	..	1¼ miles.
Nail in blaze in holly tree (8 inches diameter)	256	50	40	12.88 meters.
REFERENCE STATION	257	21	50	11.68 meters.
Nail in blaze in tree (6 inches diameter)	293	42	00	14.35 meters.
East chimney of house	303	31	..	⅛ mile.

MARSH.

General locality.—Southern shore of Edge Creek at eastern side of entrance to Elbert Cove about 1½ miles east of Broad Creek. (See Chart No. 34.)

Immediate locality.—Observed station is on marsh point about 1 foot above high water, 18 yards west of shore, 27 yards south of extreme north end of point, and 35 yards north of an old fence line with a row of cedars. Cement monument marking reference station is 13.58 meters S 14° 47′ W of observed station.

Marks.—Observed station is nail in 3-inch cedar stub projecting 5 inches above surface of ground. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—

	°	′	″	
"Clark" (N 66° 24′ E)	0	00	00	⅛ mile.
Chimney of house	11	54	..	1 mile.
West gable of barn	19	43	..	1⅛ miles.
South chimney of house	37	31	..	1½ miles.
REFERENCE STATION	128	23	10	13.58 meters.
South chimney of house	195	10	..	1 mile.
East gable of barn	234	19	..	2¾ miles.
South chimney of house	260	24	..	2½ miles.
East chimney of house	296	34	..	¾ mile.

CEDAR.

General locality.—Eastern shore of Broad Creek on Cedar Point at southern side of entrance to Edge Creek about ⅝ mile south of south end of Hambleton Island and ½ mile east-northeast of Deep Neck Point. (See Chart No. 34.)

Immediate locality.—Observed station is on a hard oyster shell bank about 3 feet above high water, 3 yards south of shore, and in front of a thicket of cedar and oak trees. Cement monument marking reference station is 11.16 meters S 27° 55′ E of observed station.

Marks.—Observed station is nail in center of 2-inch cedar stub projecting 2 inches above surface of ground. Reference station is center point of triangle on standard cement monument projecting 5 inches above surface of ground.

References.—

	°	′	″	
"Willey" (N 4° 24′ W)	0	00	00	⅝ mile.
"St. Michaels Water Tank"	8	03	..	3¼ miles.
West chimney on house	26	29	..	1⅛ miles.
Cupola on house	52	10	..	1 mile.
East chimney of house	54	03	..	1¼ miles.
North chimney of house	79	29	..	1½ miles.
REFERENCE STATION	156	28	10	11.16 meters.
Nail in blaze in twin oak tree (12 inches diameter)	168	20	00	6.14 meters.
Nail in blaze in elm tree (12 inches diameter)	213	09	50	4.13 meters.
North chimney of house	270	59	..	1⅜ miles.
East gable of house	284	43	..	1½ miles.
East chimney of house	308	11	..	1¼ miles.
East chimney of house	330	38	..	1⅜ miles.
South chimney of house	351	51	..	2 miles.

ROSS.

General locality.—Eastern shore of Broad Creek on Deep Neck Point about 1 mile south-southeast of Mulberry Point and ½ mile west-southwest of Cedar Point. (See Chart No. 34.)

Immediate locality.—Observed station is on wooded shore about 10 feet above high water, and 6 yards southeast of top of vertical bank which is washing rapidly. Cement monument marking reference station is 14.94 meters S 61 ° 43′ E of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below bottom of surface pipe. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Cedar" (N 65° 14′ E)	0	00	00	.....	½ mile.
Nail in blaze in pine tree (18 inches diameter)	22	11	30	.....	16.32 meters.
REFERENCE STATION	53	03	10	.....	14.94 meters.
Nail in blaze in pine tree (15 inches diameter)	81	02	20	.....	11.81 meters.
Left tangent of Nelson Point	156	27	..	.....	2⅝ miles.
South gable of Bridges barn	212	06	..	.....	1 mile.
South gable of house	226	21	..	.....	1½ miles.
South chimney of house	243	18	..	.....	1¾ miles.
South chimney of house	263	21	..	.....	1 mile.
Cupola on barn	288	25	..	.....	2¼ miles.
"St. Michaels Water Tank"	306	04	..	.....	3½ miles.
"St. Michaels P. E. Church Spire"	308	18	..	.....	3⅜ miles.
East chimney of house	320	33	..	.....	1⅞ miles.

COOK.

General locality.—Eastern shore of Broad Creek about 1¾ miles north of Choptank River and ¼ mile south of entrance to Bridge Creek. (See Chart No. 34.)

Immediate locality.—Observed station is on point of marsh about 1 foot above high water and 2 yards east of shore. Cement monument marking reference station is 11.63 meters N 61° 29′ E of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 6 inches above surface of ground.

References.—	°	′	″		
"Ross" (N 4° 06′ E)	0	00	00	.....	1¼ miles.
East chimney of house	11	56	..	.....	1¼ miles.
Nail in blaze in cedar tree (6 inches diameter)	54	02	20	.....	13.79 meters.
REFERENCE STATION	57	23	00	.....	11.63 meters.
Nail in blaze in persimmon tree (8 inches diameter)	73	37	30	.....	9.79 meters.
Left tangent of Nelson Island	228	18	..	.....	2 miles.
North gable of barn	293	09	..	.....	2¼ miles.
South gable of Bridges barn	321	47	..	.....	1½ miles.
South chimney of house	343	04	..	.....	2⅛ miles.
South chimney of house	354	47	..	.....	3½ miles.

PEARY.

General locality.—Eastern shore of Broad Creek about 1 mile north of entrance to Broad Creek, 1⅜ miles north of Royston Island, and 1¾ miles east-northeast of Nelson Point. (See Chart No. 34.)

Immediate locality.—Observed station is on wooded shore about 6 feet above high water, 3 yards east of vertical bank, which is washed by high water, 100 yards south of north end of pine woods. Cement monument marking reference station is 20.93 meters N 43° 30′ E of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 3 inches above surface of ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Roys" (S 17° 35′ E)	0	00	00	.....	1½ miles.
Left tangent of Cook Point	44	53	..	.....	6¼ miles.
Right tangent of Nelson Point	96	09	..	.....	1¾ miles.
East chimney of house	117	03	..	.....	2 miles.
East gable of Parlett house	131	52	..	.....	2¾ miles.
South gable of barn	168	59	..	.....	1⅞ miles.
Nail in blaze in pine tree (15 inches diameter)	233	25	40	.....	17.49 meters.
REFERENCE STATION	241	04	50	.....	20.93 meters.
Nail in blaze in pine tree (15 inches diameter)	307	35	10	.....	15.45 meters.

IRISH.

General locality.—Northeastern shore of Choptank River on west side of entrance to Irish Creek, about ⅜ mile northeast of Royston Island. (See Chart No. 34.)

Immediate locality.—Observed station is in cultivated land, about 5 feet above high water, 13 yards east-northeast of edge of bank, 5 yards north of foot of bank, 4 yards north of a cedar tree, 10 yards west of a small cedar tree at west end of line of locust trees, and 23 yards east-southeast of rounded point of bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Pont" (N 13° 04′ E)	0	00	00	.....	½ mile.
Near peak of building	25	49	..	.....	1¼ miles.
Nail in blaze in locust tree (2 inches diameter)	68	52	50	.....	16.33 meters.
Left peak of house	98	15	..	.....	⅝ mile.
Left peak of barn	123	13	..	.....	1 mile.
Nail in blaze in cedar tree (7 inches diameter)	152	52	10	.....	4.29 meters.
Near peak of house	185	06	..	.....	5 miles.
Nail in blaze in cedar tree (2 inches diameter)	206	33	40	.....	6.24 meters.
"Sharps Island Light"	230	10	20	.....	9 miles.
Near peak of house	291	12	..	.....	3¾ miles.
Near peak of barn	348	54	..	.....	300 yards.

ROYS.

General locality.—Northeastern side of Choptank River on southern end of Royston Island, about ½ mile southwest of entrance to Irish Creek. (See Chart No. 34.)

Immediate locality.—Observed station is about 5 feet above high water, 15 yards north of shore, 25 yards east of shore, and 25 yards northeast of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Choptank River Light" (S 44° 37′ E)	0	00	00	.....	3⅝ miles.
"Large Water Tank"	9	09	00	.....	5⅝ miles.
Peak of large barn	49	44	..	.....	4½ miles.
Right peak of barn	71	08	..	.....	5¾ miles.
Windmill	71	16	..	.....	5¾ miles.
"Sharps Island Light"	109	16	30	.....	8¾ miles.
Church spire	134	43	..	.....	6 miles.

References—Continued.	°	′	″		
Church spire	134	47	..	.....	6 miles.
Large spire	134	57	..	.....	6 miles.
Windmill	146	07	..	.....	5¾ miles.
Chimney of house	170	03	..	.....	3 miles.
Near peak of large barn	200	28	..	.....	3½ miles.
Nail in blaze in oak tree (3 inches diameter)	215	43	10	.....	10.64 meters
Nail in blaze in oak tree (3 inches diameter)	281	24	20	.....	6.22 meters.
Nail in blaze in cedar tree (5 inches diameter)	358	28	40	.....	15.92 meters.

PONT.

General locality.—Western shore of Irish Creek on point about ½ mile north of Choptank River entrance to creek. (See Chart No. 34.)

Immediate locality.—Observed station is in pasture land, about 5 feet above high water, 3 yards west of edge of bank, 30 yards south-southwest of point of bank, 35 yards north by west of point of bank, and ⅛ mile northeast of 2½-story frame house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Sticky" (N 14° 01′ W)	0	00	00	.....	¼ mile.
Nail in blaze in locust tree (5 inches diameter)	25	36	50	.. ..	24.71 meters.
Right peak of barn	43	34	..	.....	⅝ mile.
Left peak of house	80	10	..	.....	1 mile.
Near peak of barn	143	06	..	.....	⅝ mile.
Near peak of 2½-story house	231	32	..	.....	⅛ mile.

STICKY.

General locality.—Western shore of Irish Creek about ¾ mile from Choptank River entrance to creek. (See Chart No. 34.)

Immediate locality.—Observed station is on small marsh point about 1 foot above high water, 8 yards east of shore, 8 yards west of shore, 4 yards south of a 3-foot terrace covered with small cedar and pine trees, and 23 yards north-northeast of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Vue" (N 89° 43′ E)	0	00	00	.....	½ mile.
Left peak of large house	2	04	..	.....	1 mile.
Right corner of House	47	19	..	.....	⅞ mile
Near peak of house	92	58	..	.....	⅜ mile.
Nail in blaze in pine tree (6 inches diameter)	231	25	40	.....	8.72 meters.
Nail in blaze in pine tree (4 inches diameter)	244	49	10	.....	9.85 meters.
Nail in blaze in pine tree (4 inches diameter)	269	21	30	.....	8.63 meters.
Near peak of barn	317	55	..	.....	½ mile.

VUE.

General locality.—Northern shore of Irish Creek, about ¾ mile from Choptank River entrance to creek. (See Chart No. 34.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 4 yards west-northwest of shore, 5 yards northeast of shore, and 8 yards north of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Ila" (S 2° 45′ W)	0	00	00	¼ mile.
Right peak of barn	49	28	..	⅝ mile.
Right peak of house	52	30	..	⅝ mile.
Nail in blaze in cedar tree (4 inches diameter)	160	52	10	24.91 meters.
Nail in blaze in cedar tree (12 inches diameter)	186	14	40	45.03 meters.
Left corner of house	265	31	..	400 yards.
Left peak of house	271	30	..	⅜ mile.
Near peak of house	311	21	..	½ mile.
Right corner of house	352	34	..	⅝ mile.

ILA.

General locality.—Eastern shore of Irish Creek, about ¼ mile from Choptank River entrance to creek, on a point at north side of entrance to a cove. (See Chart No. 34.)

Immediate locality.—Observed station is in cultivated land about 5 feet above high water, 3 yards south-southwest of edge of bank, 20 yards northeast of edge of bank at trees, 17 yards southeast of point of bank, and 23 yards east by north of point of bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Creek" (S 16° 51′ W)	0	00	00	½ mile.
Nail in blaze in locust tree (3 inches diameter)	13	57	30	16.07 meters.
Nail in blaze in locust tree (4 inches diameter)	28	06	10	19.32 meters.
Nail in blaze in locust tree (3 inches diameter)	53	06	20	21.36 meters.
Left corner of barn	59	17	..	½ mile.
Near peak of barn	130	36	..	¾ mile.
Left corner of left chimney of house	155	18	..	⅝ mile.
Left peak of house	191	36	..	⅝ mile.
Left peak of house	222	01	..	½ mile.
Left corner of left chimney of large house	265	09	..	⅜ mile.
Right peak of house	334	56	..	⅝ mile.

CREEK.

General locality.—Northeastern shore of Choptank River on east side of entrance to Irish Creek, about ⅝ mile east-northeast of Royston Island. (See Chart No. 34.)

Immediate locality.—Observed station on marsh point about 1 foot above high water, 11 yards southeast of shore, 11 yards east of shore, 17 yards north-northeast of shore and 14 yards south of cut in shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Dot" (S 17° 34′ W)	0	00	00	4⅝ miles.
Right corner of house	118	45	..	⅝ mile.
Right corner of house	146	12	..	1¼ miles.
Left peak of house	184	09	..	1⅛ miles.
Left corner of large chimney	230	02	..	⅝ mile.
Near peak of large building	354	09	..	5¾ miles.

BENONI 2.

General locality.—Northern shore of Choptank River on Benoni Point at western side of entrance to Tred Avon River, about 1⅜ miles northwest of Choptank River Light. (See Chart No. 34.)

Immediate locality.—Observed station is about 5 feet above high water, 9 yards south-southwest of foot of knoll and edge of marsh, 4 yards northeast of edge of bank, 25 yards east-southeast of point of bank, 30 yards north by west of point of marsh, and 100 yards southwest of a cove. Cement monument marking reference station is 7.45 meters N 42° 02′ E of observed station.

Marks.—Observed station is nail in center of stub projecting 4 inches above a 4-inch tile pipe with top of pipe flush with surface of ground. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″	
"Choptank River Light" (S 40° 01′ E)	0	00	00	1¼ miles.
"Large Water Tank"	13	10	20	3¼ miles.
Left corner of house	65	40	..	4½ miles.
Nail in blaze in water bush	181	09	10	7.68 meters.
Nail in blaze in water bush	231	34	40	4.54 meters.
Near peak of small house	245	50	..	1¾ miles.
Left corner of burnt house	261	14	..	2 miles.
REFERENCE STATION	262	02	40	7.45 meters.
Peak of near gable of large house	277	30	..	1¾ miles.
Nail in blaze in water bush	288	09	40	10.40 meters
Left corner of house	306	56	..	1⅜ miles

MUTTON.

General locality.—Western shore of Tred Avon River opposite town of Oxford, about 1¼ miles north-northeast of Benoni Point. (See Chart No. 34.)

Immediate locality.—Observed station is in cultivated land about 5 feet above high water, 13 yards west of edge of tree-fringed bank at edge of strip of marsh, 20 yards southwest of edge of bank, and 25 yards northeast of edge of bank at bend.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Choptank River Light" (S 6° 44′ E)	0	00	00	2¼ miles.
Right corner of barn	70	54	..	¼ mile.
Near corner of barn	108	44	..	600 yards.
Center of chimney outside of house	161	53	..	¼ mile.
Near corner of house	214	32	..	½ mile.
Nail in blaze in persimmon tree (12 inches diameter)	223	57	20	18.44 meters.
Nail in blaze in cedar tree (8 inches diameter)	242	32	30	13.48 meters.
Nail in blaze in cedar tree (10 inches diameter)	279	04	40	11.80 meters.
Nail in blaze in locust tree (6 inches diameter)	354	18	20	17.18 meters.

TRED.

General locality.—Western shore of Tred Avon River about ½ mile west of Oxford. (See Chart No. 34.)

Immediate locality.—Observed station is about on level with high water, 2 yards west of shore of marsh strip, 6 yards east of foot of a bank, 6 feet high, 30 yards south by east of small house among trees, 13 yards south by east of end of fence, and 20 yards north of small point of marsh strip. Cement monument marking reference station is 4.98 meters N 68° 24′ W of observed station and at foot of bank.

Marks.—Observed station is nail in center of cypress stub projecting 5 inches above 4-inch tile pipe with top of pipe flush with surface of ground. Reference station is center point of triangle on standard cement monument projecting 5 inches above surface of ground.

References.—

	°	′	″		
"Choptank River Light" (S 0° 22′ E)	0	00	00	.....	2⅝ miles.
REFERENCE STATION	111	59	00	.....	4.98 meters.
Near peak of small house	171	43	..	.....	29 yards.
Windmill on wooden tower	212	46	..	.....	1⅜ miles.
Left peak between two chimneys of large house	238	08	..	.....	1⅝ miles.
Left peak of Oxford wharf house	277	22	..	.....	⅝ mile.
Windmill	324	51	..	.....	1 mile.

BELLEVUE.

General locality.—Western shore of Tred Avon River at Bellevue steamboat landing about ¾ mile northwest of Oxford steamboat landing. (See Chart No. 34.)

Immediate locality.—Observed station is on south side of roadway pier to Bellevue wharf, about 16 yards south by west of a crab house, and 25 yards west of wharf house.

Marks.—Observed station is center of 3-inch square staff 12 feet high.

References.—

Right corner of storehouse	N. E.	.....	16.00 meters.
Left corner of wharf house	E. by N.	.....	24.25 meters.
Right corner of wharf house	E. by S.	.....	24.18 meters.
Center one of four nails in plank	N. by E.	.....	3.42 meters.
Center one of four nails in plank	E. by S.	.....	.73 meters.
Center one of four nails in plank	W. by N.	.....	.82 meters.

TAR.

General locality.—Western shore of Tred Avon River on point between Tar Creek and Plaindealing Creek about 1⅛ miles north of Oxford steamboat wharf. (See Chart No. 34.)

Immediate locality.—Observed station is on a long point about 4 feet above high water, 10 yards east-northeast of Tar Creek, 9 yards north by west of point of bank, 10 yards northwest by west of edge of bank, 6 yards west-southwest of edge of bank, and 60 yards west by north of extreme end of point of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Peck" (S 55° 15′ E)	0	00	00	.....	½ mile.
Spindle on left cupola of long barn	10	35	..	.....	1¼ miles.
Stack of ice plant at Oxford	52	20	..	.....	1⅛ miles.
Weather vane on barn cupola	105	41	..	.....	¾ mile.
Left peak of 2½-story frame house	128	04	..	.....	½ mile.
Right corner of frame house	203	00	..	.....	127 yards.
Front peak of frame house	246	08	..	.....	½ mile.
Left peak of cupola	337	08	..	.....	⅜ mile.

PECK.

General locality.—Northeastern shore of Tred Avon River on Peck Point about 1 mile northeast of Oxford Steamboat wharf. (See Chart No. 34.)

Immediate locality.—Observed station is in woods about 8 feet above high water, 4 yards north of edge of bank, 4 yards northwest of edge of bank, and 8 yards east of edge of bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Tall" (S 82° 32′ E)	0	00	00	½ mile.
Spindle on left cupola on long barn	41	55	..	1¾ miles.
Right peak of building with cupola	82	05	..	⅞ mile.
Nail in blaze in locust tree (6 inches diameter)	83	59	10	2.80 meters.
Left corner of large 2½-story house	150	40	..	1¼ miles.
Spindle on barn cupola	160	35	..	1¼ miles.
Nail in blaze in cherry tree (4 inches diameter)	200	59	20	5.65 meters.
Nail in blaze in persimmon tree (3 inches diameter)	314	22	30	3.93 meters.

TALL.

General locality.—Northwestern shore of Tred Avon River on a prominent point 1⅜ miles northeast of Oxford steamboat wharf. (See Chart No. 34.)

Immediate locality.—Observed station is among cedar and wild pear trees about 2 feet above high water 7 yards northwest of shore, 40 yards east by north of shore, and 50 yards north-northeast of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of the ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Plain" (N 25° 25′ E)	0	00	00	⅜ mile.
Right peak of house	37	35	..	1⅝ miles.
Top of roof of tower	65	17	..	⅞ mile.
Nail in blaze in cedar tree (6 inches diameter)	79	02	30	2.62 meters.
Spindle on barn cupola	105	15	..	1¼ miles.
Spindle on left cupola of large barn	135	04	..	1 mile.
Nail in blaze in cedar tree (5 inches diameter)	162	48	30	4.65 meters.
Right peak of Oxford wharf house	211	08	..	1⅜ miles.
Nail in blaze in cedar tree (5 inches diameter)	218	45	30	6.90 meters.
Spindle on top of water tank	240	35	..	1½ miles.
Nail in blaze in cedar tree (8 inches diameter)	308	46	40	3.08 meters.

PLAIN.

General locality.—Western shore of Tred Avon River about ½ mile west of north side of entrance to Trippe Creek, and 1⅜ miles south-southwest of Double Mills wharf. (See Chart No. 34.)

Immediate locality.—Observed station is in cultivated land about 3 feet above high water, 5 yards southwest of shore, 10 yards west of shore at first water bush, and 150 yards northwest of point of shore. Cement monument marking reference station is 17.90 meters S 55° 16′ E of observed station.

Marks.—Observed station is nail in center of 2-inch stub in center of 2-inch tile pipe with top of stub projecting 12 inches above surface of ground. Subsurface mark is another 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 2 inches above surface of ground.

References.—	°	′	″	
"Spin" (N 1° 18′ W)	0	00	00	⅝ mile.
Near peak of very large house	7	50	..	⅞ mile.
Center of cupola on wharf house at Double Mills	19	00	..	1⅜ miles.
Spindle on barn cupola	34	02	..	1¼ miles.
REFERENCE STATION	126	01	20	17.90 meters.
Spindle on left cupola on long barn	174	45	..	1⅝ miles.
Windmill	205	40	..	1⅛ miles.
Near peak of large house	246	46	..	⅝ mile.
Near peak of house	318	18	..	⅝ mile.

SPIN.

General locality.—Western shore of Tred Avon River on a point of land between two small creeks about ¾ mile northwest of entrance to Trippe Creek, and ⅞ mile south-southwest of Double Mills wharf. (See Chart No. 34.)

Immediate locality.—Observed station is in pasture land near 4 large trees about 10 feet above high water, 20 yards north by west of bank edge, 30 yards west by north of point of bank and 90 yards northeast of a slight cut in the bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Martin" (N 32° 01′ E)	0	00	00	⅜ mile.
Left corner of large frame house	12	37	..	1 mile.
Nail in blaze in pine tree (34 inches diameter)	23	28	00	9.74 meters.
Near corner of brick house	45	26	..	½ mile.
Nail in blaze in cedar tree (14 inches diameter)	10	47	50	10.45 meters.
Nail in blaze in holly tree (17 inches diameter)	180	28	..	6.90 meters.
Nail in blaze in mulberry tree (30 inches diameter)	213	54	20	7.01 meters.
Windmill	231	53	..	⅜ mile.
Right corner of house	278	13	..	⅜ mile.
Right corner of very long frame house	350	46	..	⅜ mile.
Cupola on Double Mills wharf house	358	18	..	⅞ mile.

MARTIN.

General locality.—Western shore of Tred Avon River about 1 mile north-northwest of entrance to Trippe Creek, and ½ mile southwest of Double Mills wharf. (See Chart No. 34.)

Immediate locality.—Observed station is on a long narrow point about 2 feet above high water, 8 yards southwest of shore, 11 yards north of piling protecting shore, 30 yards northwest of extreme end of point, and 14 yards east of middle one of three apple trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center point of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Neva" (N 24° 39′ E)	0	00	00	.....	3/8 mile.
Spindle on cupola of Double Mills wharf house	4	12	..	.....	3/8 mile.
Left peak of large 2½-story house	29	27	..	.....	½ mile.
Right corner of brick house	96	51	..	.....	3/8 mile.
Nail in blaze in apple tree	224	29	50	.....	21.72 meters.
Nail in blaze in apple tree (8 inches diameter)	234	06	20	.....	16.72 meters.
Left corner large house	247	10	..	.....	146 yards.
Nail in blaze in apple tree (6 inches diameter)	250	47	20	.....	12.89 meters.
Left corner house	313	03	..	.....	¼ mile.
Left peak of roof of house	347	41	..	.....	3/8 mile.

NEVA.

General locality.—Western shore of Tred Avon River at Double Mills wharf about 1 3/8 miles north of entrance to Trippe Creek. (See Chart No. 34.)

Immediate locality.—Observed station is in southeast corner of a pasture about 3 feet above high water 100 yards west-southwest of Double Mills wharf 5 yards west-southwest of wire and lath fence at road, 14 yards north of bank 1 foot high at river, and 14 yards northwest of corner post of fence.

Marks.—Observed station is center of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Robertson" (N 11° 57′ E)	0	00	00	.....	3/8 mile.
Spindle on cupola on Double Mills wharf house	63	00	..	.....	100 yards.
Nail in blaze in horse chestnut tree (8 inches diameter)	89	03	40	.....	5.86 meters.
Right corner of right chimney outside of house	92	03	..	.....	¼ mile.
Right corner of brick house	152	08	..	.....	5/8 mile.
Spindle on left cupola on long barn	173	02	..	.....	2 3/4 miles.
Right corner of house	267	40	..	.....	250 yards.
Nail in blaze in linden tree (10 inches diameter)	315	58	30	.....	20.30 meters.

ROBERTSON.

General locality.—Northwestern shore of Tred Avon River about 3/8 mile north of Double Mills Wharf and 3/8 mile west of end of Long Point. (See Chart No. 34.)

Immediate locality.—Observed station is on grassy land about 2 feet above high water, 7 yards north of shore, 2 yards south of fence, 3 yards east of a few very small cedar trees, and 40 yards west of cedar trees on high land beyond gully.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Stretch" (S 88° 57′ E)	0	00	00	.....	¼ mile.
Windmill on wooden tower	9	47	..	.....	1 mile.
Right corner of building	40	22	..	.....	5/8 mile.
"Aye" (weather vane on largest barn cupola)	46	18	26	.....	½ mile.
Right corner of house	60	22	..	.....	½ mile.
Weather vane on Double Mills Wharf house	93	29	..	.....	3/8 mile.
Right peak of large house	116	33	..	.....	3/8 mile.
Nail in blaze in fence post	175	05	10	.....	4.47 meters.
Nail in blaze in fence post	214	15	20	....	2.27 meters.
Nail in blaze in fence post	306	04	50	.....	1.80 meters.

STRETCH.

General locality.—Western shore of upper Tred Avon River on Long Point at south side of entrance to Maxmore Creek about ½ mile northeast of Double Mills Wharf. (See Chart No. 34.)

Immediate locality.—Observed station is on a rounded marsh point about 1 foot above high water, 16 yards west-northwest of shore, and 22 yards west-southwest of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"May" (N 71° 30′ E)	0	00	00	⅜ mile.
Near peak of barn cupola	34	22	..	⅝ mile.
"Aye" (weather vane on largest barn cupola)	100	20	10	⅜ mile.
Right corner of quarter house	100	39	..	⅜ mile.
Right corner of large house	120	16	..	⅜ mile.
Weather vane on Double Mills Wharf house	154	44	..	½ mile.
Chimney among trees	275	51	..	¾ mile.

MAY.

General locality.—Northwestern shore of upper Tred Avon River about ⅜ mile east of entrance to Maxmore Creek and ⅞ mile northeast of Double Mills wharf. (See Chart No. 34.)

Immediate locality.—Observed station is at point of woods on marsh about 1 foot above high water, 10 yards west-northwest of shore, 11 yards north of shore, and 20 yards east of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Peebee" (N 48° 14′ E)	0	00	00	⅜ mile.
Left corner of house	10	43	..	¾ mile.
Left corner of large house	56	43	..	1 mile.
Spindle on barn cupola	75	59	..	½ mile.
"Aye" (weather vane on largest barn cupola)	165	46	40	⅝ mile.
Weather vane on Double Mills Wharf house	190	15	..	⅞ mile.
Nail in blaze in pine tree (8 inches diameter)	269	50	00	6.81 meters.
Nail in blaze in pine tree (4 inches diameter)	290	09	50	9.39 meters.
Nail in blaze in cedar tree (6 inches diameter)	316	15	00	6.44 meters.

PEEBEE.

General locality.—Western shore of upper Tred Avon about 1¼ miles northeast of Double Mills Wharf and ⅜ mile northwest of entrance to Peachblossom Creek. (See Chart No. 34.)

Immediate locality.—Observed station is in cultivated land about 4 feet above high water, 6 yards southwest of edge of bank, 14 yards west-northwest of edge of bank, 16 yards northwest of extreme point of bank, 50 yards northeast of a clump of cedar trees, and 400 yards east of dense woods.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Neck" (N 28° 58′ E)	0	00	00	¼ mile.
Spindle on barn cupola	32	39	..	½ mile.
Nail in blaze in cedar tree (16 inches diameter)	68	50	10	9.08 meters.
Left corner of house among trees	114	40	..	¾ mile.
Left corner of frame building showing through cedar trees	193	46	..	1 mile.
Nail in blaze in cedar tree (7 inches diameter)	305	54	00	16.90 meters.
Nail in blaze in cedar tree (12 inches diameter)	328	43	00	9.83 meters.
Peak of building	358	14	..	2 miles.

NECK.

General locality.—Western shore of upper Tred Avon River on Neck Point opposite Camden Point and about ¼ mile north-northwest of entrance to Peachblossom Creek. (See Chart No. 34.)

Immediate locality.—Observed station is about 1 foot above high water, 5 yards west-southwest of shore, 12 yards north of shore, and 8 yards northwest of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Stab" (N 11° 49′ W)	0	00	00	⅜ mile.
Near peak of barn	14	33	..	⅞ mile.
Near peak of large house	66	06	..	¾ mile.
Right peak of large house	100	13	..	¼ mile.
Left corner of large house among trees	170	24	..	¾ mile.
Windmill on wooden tower	175	32	..	¾ mile.
Near peak of house	246	31	..	1½ miles.

STAB.

General locality.—Western shore of upper Tred Avon River, on first point north of Neck Point, about ⅛ mile north-northwest of entrance to Peachblossom Creek. (See Chart No. 34.)

Immediate locality.—Observed station is in cultivated land, about 8 feet above high water, 3 yards northwest of edge of bank, 25 yards northeast of an oak tree at ravine, and 6 yards west of point of bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Water" (N 21° 19′ E)	0	00	00	⅜ mile.
Left peak of barn	15	02	..	1⅛ miles.
Peak of dormer window of house	29	34	..	¾ mile.
Spindle on barn cupola	99	43	..	⅝ mile.
Left corner of large house among trees	140	32	..	1⅛ miles.
Windmill on wooden tower	143	50	..	1⅛ miles.
Nail in blaze in oak tree (30 inches diameter)	199	15	10	22.06 meters.
Right peak of large barn	249	17	..	⅜ mile.
Nail in blaze in cedar tree (12 inches diameter)	351	13	10	23.61 meters.

WATER.

General locality.—Western shore of upper Tred Avon River, opposite Watermelon Point, about ¾ mile north of Neck Point, and 1¼ miles north of entrance to Peachblossom Creek. (See Chart No. 34.)

Immediate locality.—Observed station is in cultivated field west of a broad marsh about 6 feet above high water, 2 yards west of edge of bank, 35 yards north-northwest of point of bank, 20 yards south of point of bank, and 45 yards east-northeast of inside curve of cut.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Melon" (N 83° 37′ E)	0	00	00	¼ mile.
Left large chimney of house	59	15	..	¾ mile.
Spindle on barn cupola	65	10	..	⅞ mile.
Center of cedar tree	198	39	..	120 yards.
Left corner of house	251	33	..	⅝ mile.
Right corner of house	293	02	..	⅞ mile.

RADCLIFFE.

General locality.—Northwestern shore of Tred Avon River, on point of land between Dixon Creek and Tred Avon River. (See Chart No. 34.)

Immediate locality.—Observed station is on small piece of fast land at end of marsh point, about 2 feet above high water, 11 yards northeast by north of shore, 15 yards north of shore, 40 yards southeast of shore, and among several pine and oak trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Bateman" (S 70° 22′ E)	0	00	00	¼ mile.
End of stable	24	55	..	⅜ mile.
Left end of boat house roof	103	19	..	¼ mile.
Near peak of barn	122	55	..	¼ mile.
Left chimney of house	173	21	..	⅝ mile.
Nail in blaze in pine tree (20 inches diameter)	192	56	50	12.59 meters.
Near peak of house	206	02	..	¼ mile.
Nail in blaze in oak tree (12 inches diameter)	290	06	10	5.01 meters.
Near peak of barn	337	43	..	½ mile.
Nail in blaze in pine tree (20 inches diameter)	339	07	20	9.77 meters.

BATEMAN.

General locality.—Southeastern shore of upper Tred Avon River, about ⅜ mile east of entrance to Dixon Creek, and 1⅛ miles southwest of Easton Point Wharf. (See Chart No. 34.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, 5 yards southeast of shore, 12 yards southwest of shore, and 20 yards northeast of high land.

Marks.—Observed station is center point of triangle on standard cement monument projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2-inches below base of monument.

References.—

	°	′	″	
"Melon" (S 41° 10′ W)	0	00	00	⅜ mile.
Left end of boathouse roof	25	18	..	½ mile.
Peak of barn	37	06	..	½ mile.
Near peak of corn house	38	37	..	¼ mile.
Left chimney of large house	63	45	..	⅞ mile.
Weather vane on large house	77	28	..	¼ mile.
Middle dormer window of large house	139	25	..	⅜ mile.
Peak of barn	162	05	..	⅜ mile.
Windmill	263	34	..	¼ mile.

MELON.

General locality.—Eastern shore of upper Tred Avon River, on Watermelon Point, about ¼ mile south of entrance to Dixon Creek, ¾ mile north of Camden Point, and 1⅛ miles north of entrance to Peachblossom Creek. (See Chart No. 34.)

Immediate locality.—Observed station is about 9 feet above high water, 30 yards south-southeast of edge of bank, 60 yards east by south of point of bank at large cedar tree, 35 yards east of edge of bank, 150 yards northwest of a cove, and 100 yards west by south of small cedar tree at cut in bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Stab" (S 47° 10′ W)	0	00	00	.....	½ mile.
Peak of porch of house	79	03	..	.....	½ mile.
Weather vane on barn	112	04	..	.....	⅝ mile.
Near peak of large barn	127	37	..	.....	⅞ mile.
Peak of left dormer window of large house	156	56	..	.....	¾ mile.
Right side of right porch pillar on house	192	56	..	.....	¼ mile.
Left corner of large chimney of house	305	26	..	.....	⅝ mile.

GASH.

General locality.—Eastern shore of upper Tred Avon River on point of land between Camden Point and Watermelon Point, about ¾ mile north of entrance to Peachblossom Creek. (See Chart No. 34.)

Immediate locality.—Observed station is about 5 feet above high water, 16 yards north of shore, 25 yards east-northeast of point of shore, 18 yards east-southeast of bank, 10 yards west of field, and near several large pine trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Camden" (S 11° 43′ W)	0	00	00	.....	⅜ mile.
Left corner of near chimney of house	84	18	..	.....	¾ mile.
Nail in blaze in pine tree (24 inches diameter)	123	43	50	.....	8.30 meters.
Nail in blaze in locust tree (5 inches diameter)	203	43	50	.....	11.93 meters.
Nail in blaze in oak tree (12 inches diameter)	298	35	00	.....	7.24 meters.
Weather vane on barn cupola	318	38	..	.....	⅜ mile.
Spindle on barn cupola	351	44	..	.....	⅝ mile.

CAMDEN.

General locality.—Eastern shore of upper Tred Avon River on Camden Point at north side of entrance to a small cove, and about ⅜ mile north of entrance to Peachblossom Creek. (See Chart No. 34.)

Immediate locality.—Observed station is on sandy grass land about 2 feet above high water, 8 yards north-northeast of sandy shore, 22 yards south-southeast of shore of Tred Avon River, 30 yards east of extreme end of point, 10 yards southeast of a mudhole, and 30 yards southwest of clump of cedar and hackberry trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Blossom" (S 6° 31′ E)	0	00	00	.....	¼ mile.
Windmill on wooden tower	1	29	..	.....	¾ mile.
Left peak of long building	55	07	..	.....	1¼ miles.
Near peak of barn	179	21	..	.....	⅞ mile.
Nail in blaze in cedar tree (7 inches diameter)	212	39	20	.....	27.27 meters.
Nail in blaze in hackberry tree (3 inches diameter)	224	03	00	.....	26.84 meters.
Nail in blaze in cedar tree (14 inches diameter)	239	40	40	.....	27.81 meters.
Left corner of roof of house	329	14	..	.....	¾ mile.

BLOSSOM.

General locality.—Eastern shore of Tred Avon River at north side of entrance to Peachblossom Creek. (See Chart No. 34.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 14 yards east by south of shore of river, 12 yards west-northwest of shore of small elliptical cove, and 40 yards north by west of entrance to cove.

Marks.—Observed station is center point of triangle on standard cement monument with top projecting 4 inches above the surface of the ground. Subsurface mark is center of 2-inch tile pipe 24 inches long buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Wall" (S 50° 07′ W)	0	00	00	½ mile.
Weather vane on Double Mills Wharf house	17	03	..	1⅜ miles.
Near peak of barn	122	51	..	1¼ miles.
Near peak between two large chimneys on large house	157	49	..	½ mile.
Left corner of steps on large house among trees	259	40	..	⅝ mile.
Left corner of left porch post on large house among trees	298	23	..	⅜ mile.
Windmill on wooden tower	305	38	..	⅜ mile.

WALL.

General locality.—Southeastern shore of Tred Avon River on a point of land at west side of entrance to a small creek about 1 mile east-northeast of Double Mills Wharf. (See Chart No. 34.)

Immediate locality.—Observed station is in pasture land about 5 feet above high water, 20 yards south of extreme edge of bank, 4 yards west of terrace, 20 yards west of shore, 18 yards south-southeast of edge of bank, and 20 yards east of gully.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

"Aye" (weather vane on largest barn cupola) (S 61° 00′ W)	°	′	″	
	0	00	00	⅝ mile.
Right corner of house	7	59	..	⅝ mile.
Weather vane on Double Mills Wharf house	14	49	..	1 mile.
Nail in blaze in locust tree (30 inches diameter)	37	36	50	17.37 meters.
Nail in blaze in hackberry tree (14 inches diameter)	154	55	20	5.03 meters.
Windmill on wooden tower	231	09	..	⅜ mile.
Nail in blaze in cedar tree (28 inches diameter)	255	31	40	32.13 meters.
Nail in blaze in oak tree (30 inches diameter)	340	33	40	20.96 meters.

AYE.

General locality.—Southeastern shore of Tred Avon River about ½ mile east of Double Mills Wharf. (See Chart No. 34.)

Immediate locality.—Observed station is on cupola on largest barn.

Marks.—Observed station is spindle on cupola.

References.—None necessary.

HUNTER.

General locality.—Eastern shore of Tred Avon River at south side of entrance to a cove about ¼ mile south-southeast of Double Mills Wharf, and 1 mile north of entrance to Trippe Creek. (See Chart No. 34.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 3 yards southwest of shore, 5 yards east-northeast of shore, 6 yards southeast of point of marsh, and 10 yards west of a clump of wild cherry, hackberry, and cedar trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Weave" (S 27° 35′ W)	0	00	00	¼ mile.
Near peak between two chimneys of large house	18	39	..	1⅝ miles.
Near peak of cupola on building	35	36	..	1¼ miles.
Right peak of large house	69	07	..	½ mile.
Peak of dormer window of large house	116	34	..	½ mile.
Weather vane on wharf house at Double Mills	128	57	..	½ mile.
Left corner of large house	157	40	..	⅜ mile.
"Aye" (weather vane on largest barn copola)	175	18	20	⅜ mile.
Nail in blaze in wild-cherry tree (5 inches diameter)	208	35	20	10.70 meters.
Nail in blaze in hackberry tree (6 inches diameter)	232,	14	00	11.18 meters.
Nail in blaze in leaning cedar tree (8 inches diameter)	263	50	50	9.02 meters.
Nail in blaze in cedar tree (20 inches diameter)	272	40	50	13.34 meters.
Near peak of brick house	352	45	..	¼ mile.

WEAVE.

General locality.—Eastern shore of Tred Avon River about ½ mile north of entrance to Trippe Creek, and 1 mile south of Double Mills Wharf. (See Chart No. 34.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, 20 yards east of shore, 16 yards south of shore at small inlet, 6 yards west of small point on inlet, and 20 yards northeast of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Twin" (S 7° 23′ E)	0	00	00	⅜ mile.
Spindle on left cupola on long barn	15	04	..	1½ miles.
Stack of ice plant at Oxford	51	05	..	2 miles.
Near peak between two chimneys of large house	61	35	..	1¼ miles.
Left corner of chimney outside left end of house	92	28	..	⅞ mile.
Left corner of large house	157	58	..	¼ mile.
Peak of near gable of large house	181	16	..	1 mile.
Weather vane on wharf house at Double Mills	189	42	..	⅞ mile.
Left corner of large house	205	26	..	⅞ mile.
Left peak of house	237	58	..	300 yards.

TWIN.

General locality.—Eastern shore of Tred Avon River on point of land on north side of entrance to Trippe Creek. (See Chart No. 34.)

Immediate locality.—Observed station is in cultivated land about 4 feet above high water, 45 yards east-southeast of shore of Tred Avon River, and 110 yards northwest of shore of Trippe Creek.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Toe" (N 69° 34′ E)	0	00	00	½ mile.
Near peak of house	4	52′	..	1⅜ miles.
Top of roof of tower	87	15	..	½ mile.
Spindle on left cupola on large barn	121	32	..	1¼ miles.
Right corner of large house	189	12	..	⅞ mile.
Left peak of house	297	01	..	½ mile.
Near peak of house in trees	345	37	..	1 mile.

TOE.

General locality.—Northern shore of Trippe Creek on a point of land about ½ mile northeast of point at north side of entrance to Trippe Creek. (See Chart No. 34.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 10 yards northwest of shore, 14 yards southwest of shore, 12 yards north of round point of shore, 12 yards west of round point of shore, and 30 yards southeast of cedar and persimmon trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Trippe" (N 64° 19′ E)	0	00	00	¼ mile.
Near peak of house	16	03	..	1¼ miles.
Near peak of house	33	06	..	1⅜ miles.
Near peak of barn	126	49	..	1 mile.
Top of tower of house	137	52	..	⅝ mile.
"Weather Bureau Staff"	166	59	50	2¾ miles.
Nail in blaze in persimmon tree (7 inches diameter)	227	21	20	25.74 meters.
Nail in blaze in cedar tree (6 inches diameter)	250	42	30	21.68 meters.
Right corner of house	327	07	..	½ mile.

TRIPPE.

General locality.—Northern shore of Trippe Creek about ⅝ mile east of Tred Avon River and ⅛ mile east of entrance to a small creek. (See Chart No. 34.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 23 yards northwest of shore at entrance to slough, 30 yards east-northeast of shore, and 50 yards north by east of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Venture" (S 72° 55′ E)	0	00	00	⅜ mile.
Near peak of dormer window on large house	3	17	..	1¼ miles.
Left corner of large chimney	31	06	..	¾ mile.
Left peak of house	93	10	..	1 mile.
Stack of ice plant	128	54	..	2¾ miles.
Near peak of barn	274	07	..	⅛ mile.
Near peak of large house	323	15	..	½ mile.
Right corner of house	335	44	..	⅝ mile.

VENTURE.

General locality.—Northern shore of Trippe Creek on a point on the west side of a cove about 1 mile east of Tred Avon River. (See Chart No. 34.)

Immediate locality.—Observed station is about 1 foot above high water on the inner edge of a strip of marsh at bottom of a bank 4 feet high, 4 yards north of shore of marsh, 8 yards north-northwest of point of marsh, 3 yards south by west of top of bank, 7 yards west of point of bank, and 6 yards west of a lone cedar tree.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Plow" (N 87° 47′ E)	0	00	00	¼ mile.
Nail in blaze in cedar tree (18 inches diameter)	6	16	30	5.74 meters.
Peak of dormer window of large house	23	38	..	1 mile.
Right peak of right barn	51	10	..	¾ mile.
Left corner of left chimney of house	72	08	..	½ mile.
Left peak of barn	246	17	..	¼ mile.
Spindle on right cupola of barn	314	10	..	⅜ mile.

PLOW.

General locality.—Northern shore of Trippe Creek on a point of land between two coves about 1¼ miles from Tred Avon River. (See Chart No. 34.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 15 yards west-northwest of shore, 25 yards north of shore, 20 yards east of extreme end of point, and 5 yards south of foot of bank 7 feet high.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Higher" (N 79° 14′ E)	0	00	00	¼ mile.
Right corner of porch underpinning	32	14	..	⅜ mile.
Left peak of barn	54	52	..	1 mile.
Near peak of barn	103	30	..	½ mile.
Left corner of large chimney	117	10	..	½ mile.
Nail in blaze in persimmon tree (2¼ inches diameter)	257	46	40	12.76 meters.
Nail in blaze in oak tree (5 inches diameter)	267	47	10	14.53 meters.
Nail in blaze in persimmon tree (2¼ inches diameter)	284	57	00	15.85 meters.
Near peak of barn	345	07	..	⅝ mile.

HIGHER.

General locality.—Northern shore of Trippe Creek at east side of entrance to a cove about 1¾ miles from Tred Avon River entrance to Trippe Creek. (See Chart No. 34.)

Immediate locality.—Observed station is in cultivated land about 8 feet above high water, 30 yards northeast of edge of bank, 35 yards southeast by east of row of trees, 50 yards east-southeast of point of bank and trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"All" (S 20° 17′ E)	0	00	00	¼ mile.
Near peak of house	9	45	..	¾ mile.
Near peak of large barn	45	04	..	⅝ mile.
Left corner of large chimney	55	31	..	⅝ mile.
Nail in blaze in sassafras tree (2½ inches diameter)	138	19	00	31.63 meters.
Nail in blaze in locust tree (5 inches diameter)	142	20	50	31.96 meters.
Spindle on left one of four barn cupolas	155	19	..	⅜ mile.
Nail in blaze in locust tree (5 inches diameter)	173	32	30	30.93 meters.
Spindle on cupola	288	25	..	1 mile.

ALL.

General locality.—Northern shore of Trippe Creek about 1¾ miles from Tred Avon River entrance to Trippe Creek, and 300 yards west by north of a colonial house. (See Chart No. 34.)

Immediate locality.—Observed station is about 1 foot above high water, 35 yards southeast of shore, 35 yards east of round point of shore, 80 yards northwest of cut in shore, and 40 yards south by east of left one of nine large pine trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Cam" (S 70° 56′ W)	0	00	00	¼ mile.
Left peak of barn	38	26	..	1¼ miles.
Spindle on left one of four cupolas	74	48	..	½ mile.
Left corner of underpinning of Goldsborough house	184	18	..	300 yards.
Right corner of large chimney	226	04	..	⅛ mile.
Right peak of long barn	294	59	..	⅛ mile.
Left peak of house	333	38	..	½ mile.

CAM.

General locality.—Southern shore of Trippe Creek on a prominent point about 1½ miles from Tred Avon River entrance to Creek. (See Chart No. 34.)

General locality.—Observed station is on marsh point about 10 yards southeast of shore, 20 yards south-southwest of point of shore, and 15 yards northeast by east of point of bank at marsh.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Deux" (S 56° 11′ W)	0	00	00	¼ mile.
Left peak of barn showing through trees	58	53	..	⅞ mile.
"Aye" (weather vane on large barn cupola)	83	01	20	1¾ miles.
Right peak of barn with cupola	112	56	..	½ mile.

References—Continued.

	°	′	″		
Left corner of underpinning of Goldsborough house	196	26	..	.....	⅜ mile.
Right corner large chimney	224	09	..	.....	⅝ mile.
Left peak of house	243	42	..	.....	⅝ mile.
Nail in blaze in persimmon tree (4 inches diameter)	287	28	40	.....	23.51 meters.
Nail in blaze in oak tree (5 inches diameter)	313	59	30	.....	15.77 meters.
Nail in blaze in oak tree (5 inches diameter)	331	03	50	.....	16.93 meters.
Left corner of large chimney	356	39	..	.....	¼ mile.

DEUX.

General locality.—Southern shore of Trippe Creek about 1½ miles from Tred Avon River. (See Chart No. 34.)

Immediate locality.—Observed station is in an orchard about 8 feet above high water, 50 yards north-northeast of rambling house, 20 yards southeast of top of bank, 14 yards southwest of top of bank, 13 yards south of point of bank at ditch, and 3 yards east of a drainage ditch.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Crack" (S 72° 51′ W)	0	00	00	.....	¼ mile.
Left peak of barn	52	55	..	.....	1 mile.
Nail in blaze in pear tree (10 inches diameter)	55	26	20	.....	7.43 meters.
Near peak of barn	81	49	..	.....	¾ mile.
Left peak of large barn	114	08	..	.....	⅝ mile.
Nail in blaze in twin locust tree	119	52	20	.....	11.66 meters.
Nail in blaze in pear tree (6 inches diameter)	193	56	50	.....	6. 29 meters.
Right corner of house	256	20	..	.....	⅛ mile.
Near corner of house	312	55	..	.....	51 yards.

CRACK.

General locality.—Southern shore of Trippe Creek on point at west side of entrance to a small creek, about 1¼ miles from Tred Avon River entrance to creek. (See Chart No. 34.)

Immediate locality.—Observed station is about 3 feet above high water, 13 yards south of edge of bank 15 yards northeast of shore, 40 yards east of extreme end of point, and among scattering locust trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Mistle" (N 31° 34′ W)	0	00	00	.....	½ mile.
Near peak of shed	24	45	..	.....	¾ mile.
Spindle on right one of four cupolas	55	41	..	.....	⅞ mile.
Near peak between two chimneys on large house	78	08	..	.....	1¼ miles.
Left corner of house	109	03	..	.....	¼ mile.
Right peak of barn	135	14	..	.....	¾ mile
Near peak of barn	181	59	..	.....	¾ mile.
Nail in blaze in cedar tree (3 inches diameter)	258	17	20	.....	13. 98 meters.
Nail in blaze in locust tree (3 inches diameter)	292	11	50	.....	9.98 meters.
Nail in blaze in locust tree (2 inches diameter)	349	50	40	.....	7.78 meters.

MISTLE.

General locality.—Southern shore of Trippe Creek on a very long point, about ½ mile east-northeast of Tred Avon River. (See Chart No. 34.)

Immediate locality.—Observed station is on marsh point about 1 foot above high water, 10 yards south-southeast of shore, 14 yards west by north of shore, 24 yards southwest of extreme end of point, 4 yards south of a cedar tree, and 12 yards north of a cedar tree.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Layor" (S 50° 38′ W)	0	00	00	.....	⅜ mile.
Near peak of house	135	45	..	.....	¼ mile.
Nail in blaze in cedar tree (6 inches diameter)	163	22	40	.....	3.45 meters.
Near peak of large house	183	36	..	.....	⅝ mile.
Right corner of house	222	45	..	.....	1 mile.
Left corner of large chimney	254	06	..	.....	⅝ mile.
Nail in blaze in cedar tree (12 inches diameter)	302	11	20	.....	11.11 meters.
Nail in blaze in cedar tree (6 inches diameter)	331	27	00	.....	13.42 meters.

LAYOR.

General locality.—Southern shore of Trippe Creek, about ¼ mile east of Tred Avon River. (See Chart No. 34.)

Immediate locality.—Observed station is in edge of cultivated land about 5 feet above high water, 50 yards south of shore, 17 yards east of bank, 2 yards south-southwest of water bushes, and 200 yards wes of large lone tree.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Borough" (S 39° 05′ W)	0	00	00	.....	⅝ mile.
Near peak of large house	11	13	..	.....	1¼ miles.
Near peak of large frame house	44	27	..	.....	1⅜ miles.
Near peak of ell of house	166	22	..	.....	⅞ mile.
Right peak of house	300	30	..	.....	½ mile.
Top of roof of tower	348	21	..	.....	⅜ mile.

BOROUGH.

General locality.—Southeastern shore of Tred Avon River, about ¼ mile north-northeast of entrance to Goldsboro Creek, and ½ mile south-southwest of entrance to Trippe Creek. (See Chart No. 34.)

Immediate locality.—Observed station is about 3 feet above high water in cultivated land, 17 yards east-southeast of shore, 25 yards south of shore, 30 yards southwest of shore, ⅛ mile northwest of house in trees, and ⅛ mile west-southwest of large lone tree.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Golds" (S 38° 07′ W)	0	00	00	⅜ mile.
Spindle on barn cupola	52	57	..	2⅛ miles.
Near peak of large house	70	07	..	1 mile.
Left corner of very large house	130	22	..	1½ miles.
Near peak of wharf house at Double Mills	138	20	..	1⅞ miles.
Right corner of large building	172	49	..	1½ miles.
Large lone tree	202	34	..	⅛ mile.
Right corner of house among trees	283	17	..	300 yards.
Spindle on left cupola on long barn	340	52	..	⅝ mile.

GOLDS.

General locality.—Eastern shore of Tred Avon River on a point of land between Goldsboro Creek and Mud Creek. (See Chart No. 34.)

Immediate locality.—Observed station is on hard marsh about 1 foot above high water, 30 yards south of shore, 60 yards west-southwest of shore, and 60 yards south-southeast of point of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Mud" (N 78° 58′ W)	0	00	00	⅝ mile.
Right peak between two chimneys of large house	28	43	..	1 mile.
Near peak of large house	76	38	..	1⅞ miles.
Near peak of large barn	92	36	..	1⅝ miles.
Right corner of old house	167	39	..	½ mile.
Left corner of large house	212	35	..	½ mile.
Near peak of large house	259	21	..	½ mile.
Church spire	320	06	40	1⅝ miles.
Stack of iceplant at Oxford	338	06	..	1⅜ miles.

MUD.

General locality.—Southeastern shore of Tred Avon River at western side of entrance to Mud Creek. (See Chart No. 34.)

Immediate locality.—Observed station is among trees on northeast point of a pasture about 4 feet above high water, 13 yards southwest of shore of pond on point, 20 yards north of end of pond, 25 yards northwest of shore of pond, and 45 yards south-southeast of a lone tree at shore of river.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Town" (N 85° 59′ W)	0	00	00	¼ mile.
Spindle on barn cupola	5	14	..	1⅜ miles.
Near peak of 2¼-story house	42	28	..	1⅛ miles.
Right corner of 2½-story house	71	42	..	½ mile.
Nail in blaze in hackberry tree (24 inches diameter)	87	08	10	5.51 meters.
Center of roof of tower	157	45	..	1⅛ miles.
Nail in blaze in twin elm tree	216	59	10	8.98 meters.
Spindle on cupola of long barn	220	40	..	⅞ mile.
Nail in blaze in elm tree (7 inches diameter)	249	42	20	13.44 meters.
"Weather Bureau Staff"	315	13	40	1⅛ miles.

TOWN.

General locality.—Southeastern shore of Tred Avon River about ¼ mile northeast of east side of entrance to Town Creek, and ¾ mile northeast of Oxford steamboat wharf. (See Chart No. 34.)

Immediate locality.—Observed station is in northwest corner of a cultivated field about 6 feet above high water, 10 yards south of edge of bank, 12 yards east-southeast of point of bank, 25 yards west-southwest of edge of bank, 3 yards northeast of a fence, and 4 yards northeast of gully.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Riverview" (S 56° 27′ W)	0	00	00	.....	⅞ mile.
Nail in blaze in cedar tree (6 inches diameter)	11	23	40	.....	5.02 meters.
Weather vane on barn cupola	44	12	..	.....	1⅛ miles.
Near peak of 2½-story house	92	35	..	.....	1 mile.
Left peak of large house	141	06	..	.....	½ mile.
Near peak of house	184	59	..	.....	2¾ miles.
Top of roof of tower	199	40	..	.....	1⅜ miles.
Spindle on left cupola of long barn	248	05	..	.....	1½ miles.
Right peak of large house	283	35	..	.....	½ mile.
Right of steamboat wharf house	359	41	..	.....	¾ mile.

RIVERVIEW.

General locality.—Eastern shore of Tred Avon River about ⅛ mile west by south of Oxford steamboat wharf. (See Charts Nos. 34 and 35.)

Immediate locality.—Observed station is about 3 feet above high water, 3 yards east of shore, 23 yards south-southwest of a fisherman's shanty, and 50 yards north by west of west end of "Lovers Lane."

Marks.—Observed station is center of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"First" (S 17° 40′ E)	0	00	00	.....	½ mile.
"Choptank River Light"	27	31	20	.....	2½ miles.
Left peak of building	82	54	..	.....	¾ mile.
Spindle on barn cupola	171	17	..	.....	⅞ mile.
Left corner of fisherman's shanty	206	21	50	.....	25.82 meters.
Right corner of fisherman's shanty	224	12	40	.....	21.61 meters.
Left peak of large house	239	57	..	.....	1¼ miles.
Right corner of steamboat wharf house	263	06	..	.....	⅛ mile.
Stack of iceplant	273	00	..	.....	⅜ mile.
Nail in blaze in oak tree (18 inches diameter)	342	44	40	.....	44.25 meters.

WEATHER BUREAU STAFF.

General locality.—Eastern side of Tred Avon River in the town of Oxford. (See Charts Nos. 34 and 35.)

Immediate locality.—Observed station is in park south of High and Primary Schools, 55 yards east of shore of Tred Avon River, 55 yards west of Morris Street, and in center of circle of trees.

Marks.—Observed station is center of galvanized iron staff on square galvanized angle-iron tower.

References.—None necessary.

FIRST.

General locality.—Eastern shore of Tred Avon River in town of Oxford about ⅛ mile north of railroad wharves. (See Charts Nos. 34 and 35.)

Immediate locality.—Observed station is about 8 feet above high water, 2 yards east-southeast of edge of bank, 4 yards east by north of point of bank, 4 yards northeast of edge of bank at small gully, 2 yards south of corner fence post, and 35 yards west of house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Bach" (S 17° 38′ W)	0	00	00	⅝ mile.
Right peak of small house	51	59	..	1⅝ miles.
Right peak of modern house	67	10	..	1⅝ miles.
Left peak of small house	128	37	..	1⅛ miles.
Nail in blaze in fence post	207	52	00	4.98 meters.
Nail in blaze in apple tree (20 inches diameter)	237	43	30	11.94 meters.
Nail in blaze in apple tree (12 inches diameter)	266	24	50	14.56 meters.
Windmill	346	43	..	¼ mile.

BACH.

General locality.—Eastern shore of entrance to Tred Avon River on Bachelor Point about 1⅜ miles north-northeast of Choptank River Light. (See Charts Nos. 34 and 35.)

Immediate locality.—Observed station is in cultivated field about 6 feet above high water, 30 yards east of edge of bank, 70 yards north-northeast of edge of bank on range with Choptank River Light, and 100 yards south by west of edge of bank of trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Choptank River Light" (S 16° 59′ W)	0	00	00	1⅜ miles.
Tangent of Benoni Point	55	29	..	1¼ miles.
Left peak of roof of house	147	25	..	1⅝ miles.
Left corner of burnt house	166	05	..	1⅛ miles.
Right corner of house	211	35	..	¼ mile.
Left corner of left chimney on very large house	240	46	..	⅝ mile.
"Large water tank"	338	00	20	2¾ miles.

BOONE.

General locality.—Northeastern shore of Choptank River about ⅜ mile northwest of entrance to Boone Creek, ½ mile southeast of Bachelor Point, and 1⅛ miles northeast of Choptank River Light. (See Charts Nos. 34 and 35.)

Immediate locality.—Observed station is about 5 feet above high water, 13 yards northeast of edge of tree-fringed bank, 60 yards south-southwest of right corner of house, and 50 yards south-southeast of large apple tree.

Marks.—Observed station is center point of triangle on standard cement monument with top 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Choptank River Light" (S 33° 54′ W)	0	00	00	.....	1¼ miles.
Nail in blaze in locust tree (5 inches diameter)	21	01	40	.....	10.26 meters.
Nail in blaze in locust tree (10 inches diameter)	65	31	10	.....	20.59 meters.
Near peak of house	107	59	..	.....	¼ mile.
Right corner of house	159	12	..	.....	57 yards.
Near peak of house	195	28	..	.....	¾ mile.
Nail in blaze in locust tree (4 inches diameter)	323	14	00	.....	13.02 meters.

ENTER.

General locality.—Northern shore of Island Creek on point at east side of entrance to a small cove, about ⅛ mile northeast of Choptank River and 1⅜ miles east-northeast of Choptank River Light. (See Charts Nos. 34 and 35.)

Immediate locality.—Observed station is in cultivated land about 6 feet above high water, 16 yards north of edge of bank of creek, 18 yards south-southeast of edge of bank of cove, 30 yards east-northeast of outlet of cove, and 250 yards west by south of frame house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Choptank River Light" (S 72° 00′ W)	0	00	00	.....	1⅜ miles.
Nail in blaze in locust tree (6 inches diameter)	67	05	40	.....	39.96 meters.
Nail in blaze in cedar tree (10 inches diameter)	109	17	20	.....	16.91 meters.
Left corner of left chimney of house	117	35	..	.....	2 miles.
Left corner of house	173	35	..	.....	⅛ mile.
Near corner of house	204	11	..	.....	1½ miles.
"Large water tank"	301	37	00	.....	2½ miles.
Nail in blaze in locust tree (4 inches diameter)	357	13	40	.....	23.93 meters.

STRAW.

General locality.—Northern shore of Island Creek ⅝ mile east-northeast of Choptank River entrance to creek. (See Charts Nos. 34 and 35.)

Immediate locality.—Observed station is about 6 feet above high water, 3 yards northeast of edge of bank, 18 yards east of bank, 4 yards west of wire fence, 8 yards northwest by west of point where bank meets fence, and 5 yards south of southeast corner of a small house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Delahay" (N 66° 10′ E)	0	00	00	.....	¼ mile.
Nail in blaze in locust tree (4 inches diameter)	15	43	00	.....	4.33 meters.
Nail in blaze in locust tree (14 inches diameter)	72	08	10	.....	7.89 meters.
Left peak of barn	130	54	..	.....	⅛ mile.
Nail in blaze in locust tree (8 inches diameter)	221	41	10	.....	14.86 meters.
Left corner of small house	240	26	..	.....	5.94 meters.
Near corner of small house	287	16	..	.....	4.04 meters.
Spindle on barn cupola	349	22	..	.....	⅛ mile.

DELAHAY.

General locality.—Northern shore of Island Creek about 1 mile east-northeast of Choptank River entrance to creek. (See Charts Nos. 34 and 35.)

Immediate locality.—Observed station is in cultivated land about 5 feet above high water, 2 yards northwest of edge of bank, 100 yards east of edge of bank of inlet, 27 yards northeast of point of bank, and 75 yards southwest of farm buildings.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Kent" (N 75° 56′ E)	0	00	00	⅜ mile.
Left corner of house	15	16	..	⅞ mile.
Near peak of barn	25	17	..	¾ mile.
Near peak of large modern house	122	02	..	1 mile.
Near peak of large barn	137	38	..	1¼ miles.
Nail in blaze in apple tree (10 inches diameter)	165	30	40	21.08 meters.
Nail in blaze in apple tree (10 inches diameter)	183	52	40	21.36 meters.
Nail in blaze in apple tree (7 inches diameter)	269	51	50	10.12 meters.
Spindle on barn cupola	313	09	..	250 yards.

KENT.

General locality.—Northern shore of Island Creek on a point about 1¼ miles northeast of Choptank River entrance to creek. (See Charts Nos. 34 and 35.)

Immediate locality.—Observed station is in a cultivated field about 5 feet above high water, 50 yards northwest of top of bank, 80 yards east of bank, 75 yards north-northeast of point and 110 yards east-southeast of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Harry" (N 36° 27′ E)	0	00	00	⅜ mile.
Left corner of chimney outside left end of house	44	41	..	½ mile.
Near peak of barn	80	50	..	⅝ mile.
Peak of ell of large house	187	03	..	1¼ miles.
Near peak of building	217	54	..	⅝ mile.
Spindle on barn cupola	240	41	..	¼ mile.
Near peak of large house	309	12	..	½ mile.

HARRY.

General locality.—Northern shore of Island Creek about 1½ miles from Choptank River. (See Charts Nos. 34 and 35.)

Immediate locality.—Observed station is about 6 feet above high water, 9 yards northwest of edge of bank at cedar trees, 20 yards northeast of cut in bank, and 50 yards south-southwest of bank at cut in shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Charles" (N 55° 36′ E)	0	0	00	.....	⅜ mile.
Nail in blaze in locust tree (4 inches diameter)	11	57	00	.....	17.38 meters.
Nail in blaze in locust tree (4 inches diameter)	39	23	00	.....	8.81 meters.
Nail in blaze in cedar tree (4 inches diameter)	78	04	30	.....	8.04 meters.
Left chimney outside of left end of house	92	16	..	.....	⅜ mile.
Right corner of building	131	06	..	.....	⅝ mile.
Spindle on barn cupola	186	37	..	.....	½ mile.
Near peak of building	263	45	..	.....	⅜ mile.

CHARLES.

General locality.—Northern shore of Island Creek about 2 miles from Choptank River. (See Charts Nos. 34 and 35.)

Immediate locality.—Observed station is in southwest corner of truck garden about 6 feet above high water, 6 yards north of edge of bank, 25 yards west of top of bank near locust tree, and 3 yards east of edge of a 12-foot hole 6 feet deep.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Potato" (N 78° 01′ E)	0	00	00	.....	¼ mile.
Nail in blaze in locust tree (4 inches diameter)	23	23	00	.....	12.97 meters.
Nail in blaze in locust tree (4 inches diameter)	32	29	00	.....	9.19 meters.
Near peak of small building	53	18	..	.....	¾ mile.
Nail in blaze in cherry tree (12 inches diameter)	112	20	20	.....	4.17 meters.
Right corner of chimney on quarter house	125	27	..	.....	½ mile.
Near peak of large barn	213	02	..	.....	⅝ mile.
Nail in blaze in locust tree (5 inches diameter)	216	27	20	.....	4.82 meters.
Left corner of barn	265	14	..	.....	100 yards.

POTATO.

General locality.—Northern shore of Island Creek about 2¼ miles northeast of Choptank River entrance to creek. (See Charts Nos. 34 and 35.)

Immediate locality.—Observed station is in cultivated land about 8 feet above high water, 50 yards northwest of edge of bank, 70 yards west of shore at lowest point of bank, 70 yards north of edge of bank and 400 yards south of woods.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Ritter" (N 72° 30′ E)	0	00	00	.....	¼ mile.
Right corner of Ritter house	4	55	..	.....	⅛ mile.
Right peak of large barn	56	11	..	.....	¾ mile.
Near peak of large barn	134	51	..	.....	⅝ mile.
Near peak of house	162	28	..	.....	1⅝ miles.
Right corner of chimney of house	194	53	..	.....	¼ mile.
Left peak of outhouse	321	08	..	.....	¼ mile.

RITTER.

General locality.—Northern side of Island Creek about 2½ miles from Choptank River entrance to creek. (See Charts Nos. 34 and 35.)

Immediate locality.—Observed station is in cultivated land about 8 feet above high water, 120 yards north-northwest of nearest point of shore, 160 yards southwest by west of shore of small creek at lowest part of bank, 50 yards east of a wire fence, and 120 yards south of a fence.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Show" (N 50° 41′ E)	0	00	00	¼ mile.
Near peak of barn	17	51	..	⅛ mile.
Left corner of large chimney of house	22	44	..	⅛ mile.
Right corner of vine-covered chimney	66	25	..	⅝ mile.
Left side of tall chimney	179	43	..	1 mile.
Near peak of large barn	236	48	..	350 yards.
Left peak of long barn	317	43	..	¾ mile.

SHOW.

General locality.—Northern shore of upper Island Creek on a point of land between two coves about 2¾ miles east of Choptank River entrance to creek. (See Charts Nos. 34 and 35.)

Immediate locality.—Observed station is about 9 feet above high water, 6 yards northwest of top of bank, and 35 yards east by north of a large cherry tree in clump of large trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Kit" (S 33° 29′ E)	0	00	00	⅛ mile.
Nail in blaze in locust tree (5 inches diameter)	19	01	30	7.98 meters.
Nail in blaze in locust tree (5 inches diameter)	66	41	00	16.48 meters.
Left peak large house	204	52	..	¼ mile.
Left corner of house	300	27	..	⅜ mile.
Nail in blaze in locust tree (4 inches diameter)	311	32	..	10.13 meters.
Right corner of vine-covered house	348	00	..	½ mile.

KIT.

General locality.—Southeastern shore of Island Creek on a prominent point extending into a bend in the creek about 2¾ miles from Choptank River entrance to creek. (See Charts Nos. 34 and 35.)

Immediate locality.—Observed station is in cultivated land about 8 feet above high water, 13 yards east of top of bank at trees, 20 yards southeast of point of bank, and 30 yards south of top of bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Moke" (S 46° 04′ W)	0	00	00	¼ mile.
Nail in blaze in oak tree (8 inches diameter)	32	44	00	11.27 meters.
Nail in blaze in oak tree (10 inches diameter)	48	48	50	11.73 meters.
Right peak of large house	116	07	..	½ mile.
Right peak of barn	184	27	..	⅜ mile.
Right corner of vine-covered house	262	41	..	⅜ mile.
Nail in blaze in oak tree (5 inches diameter)	328	59	30	14.97 meters.

MOKE.

General locality.—Northern shore of Island Creek on a prominent point extending into a bend in the creek, about 2¼ miles from Choptank River entrance to creek. (See Charts Nos. 34 and 35.)

Immediate locality.—Observed station is in a pasture about 8 feet above high water, 23 yards north-northwest of edge of bank, 100 yards northeast of edge of bank at point, and 100 yards southeast of edge of bank at cedar tree.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Poco" (S 74° 55′ W)	0	00	00	¼ mile.
Right corner of large chimney	27	28	..	¾ mile.
Left corner of Ritter house	51	23	..	¼ mile.
Left peak of large house	107	01	..	¾ mile.
Nail in blaze in locust tree (6 inches diameter)	199	04	00	29.58 meters.
Left peak of large barn	208	51	..	½ mile.
Nail in blaze in locust tree (4 inches diameter)	209	47	10	34.39 meters.
Nail in blaze in locust tree (5 inches diameter)	270	56	40	22.86 meters.

POCO.

General locality.—Southern shore of upper Island Creek on point about 2¼ miles from Choptank River entrance to creek. (See Charts Nos. 34 and 35.)

Immediate locality.—Observed station is in cultivated field about 9 feet above high water, 70 yards east-southeast of shore at low bank, 80 yards south by east of edge of bank, 100 yards west of a point of bank, and 130 yards south by west of a point of bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Healey" (S 74° 26′ W)	0	00	00	¼ mile.
Windmill on wooden tower	35	36	..	⅞ mile.
Left corner of chimney at left end of house	246	15	..	½ mile.
Peak of ell of house	318	08	..	⅝ mile.
Left peak of barn	331	48	..	½ mile.
Left peak of building	346	40	..	⅝ mile.

HEALEY.

General locality.—Southern shore of Island Creek at west side of entrance to a cove, about 1⅞ miles from Choptank River. (See Charts Nos. 34 and 35.)

Immediate locality.—Observed station is in cultivated field about 10 feet above high water, 11 yards west-southwest of bank fringed with trees, and 150 yards south of a point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Maslin" (S 53° 47′ W)	0	00	00	.....	⅜ mile.
Left peak of large barn	69	32	..	.....	¾ mile.
Nail in blaze in oak tree (3 inches diameter)	126	39	50	.....	15.68 meters
Peak of house at chimney	159	37	..	.....	½ mile.
Nail in blaze in wild cherry tree (5 inches diameter)	174	27	00	.....	9.89 meters.
Nail in blaze in wild cherry tree (5 inches diameter)	231	16	00	.....	19.37 meters.
Near peak of barn	317	40	..	.....	½ mile.
Right side of right chimney of house	356	06	..	.....	⅜ mile.

MASLIN.

General locality.—Southeastern side of Island Creek about 1¼ miles northeast of Choptank River entrance to creek. (See Charts No. 34 and 35.)

Immediate locality.—Observed station is about 8 feet above high water, 95 yards southeast of shore near rail fence, 30 yards north by west of quarter buildings, 9 yards west of fence corner, 6 yards northwest by west of wire fence, 7 yards southwest by west of wire fence, and 25 yards northwest by north of a graveyard.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Mean" (S 37° 19′ W)	0	00	00	.....	¼ mile.
Spindle on barn cupola	48	25	..	.....	⅝ mile.
Left peak of barn	160	18	..	.....	½ mile.
Left corner of house	294	59	..	.....	68 yards.
Nail in blaze in walnut tree (3 feet in diameter)	308	17	00	.....	12.82 meters.
Near corner of brick outhouse	338	37	40	.....	21.38 meters.

MEAN.

General locality.—Southern shore of Island Creek on a point at north side of entrance to a south fork of creek, about 1¼ miles east-northeast of Choptank River entrance to creek. (See Charts Nos. 34 and 35.)

Immediate locality.—Observed station is in cultivated land about 5 feet above high water, 13 yards east of edge of bank, 10 yards north of line of trees at edge of bank, and 12 yards northeast of point of trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Choptank River Light" (S 77° 07′ W)	0	00	00	.....	2¾ miles.
Spindle on barn cupola	39	34	..	.....	¼ mile.
Near peak of house	80	17	..	.....	½ mile.
Near peak of barn	206	41	..	.....	⅜ mile.
Nail in blaze in cherry tree (3 inches diameter)	241	53	40	.....	13.48 meters.
Nail in blaze in locust tree (3 inches diameter)	286	16	40	.....	8.12 meters.
Nail in blaze in locust tree (3 inches diameter)	334	39	20	.....	12.35 meters.

JAY.

General locality.—Southern shore of Island Creek about 1 mile east of Choptank River entrance to creek. (See Charts Nos. 34 and 35.)

Immediate locality.—Observed station is in northeast corner of cultivated field about 5 feet above high water, 3 yards southwest of point of bank, 3 yards south-southeast of edge of bank, 3 yards west-southwest of edge of bank, and 30 yards east-northeast of scattering trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Choptank River Light" (S 78° 47′ E)	0	00	00	2⅜ miles.
Near peak of barn	40	38	..	⅞ mile.
Spindle on barn cupola	85	29	..	⅜ mile.
Near peak of house	103	54	..	¾ mile.
Left corner of chimney outside left end of house	153	40	..	⅝ mile.
Left peak of barn	186	13	..	⅝ mile.
Near peak of large barn	284	23	..	½ mile.

BERRY.

General locality.—Southern shore of Island Creek on a prominent point about ½ mile east of Choptank River entrance to creek. (See Charts Nos. 34 and 35.)

Immediate locality.—Observed station is in cultivated land about 6 feet above high water, 17 yards south-southwest of edge of bank, 17 yards west-southwest of edge of bank, 21 yards southeast of edge of bank, 20 yards southeast of a small house, and 3 yards west of a line of four trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Choptank River Light" (S 79° 08′ W)	0	00	00	2 miles.
Right corner of house	23	03	..	½ mile.
Right corner of house	52	15	..	⅜ mile.
Nail in blaze in apple tree (8 inches diameter)	100	30	10	14.62 meters.
Nail in blaze in apple tree (12 inches diameter)	119	11	30	5.92 meters.
Spindle on barn cupola	139	01	..	½ mile.
Left peak on long barn	170	43	..	1 mile.
Near corner of house	233	42	..	18.33 meters.
Nail in blaze in apple tree (14 inches diameter)	252	23	30	6.94 meters.
Right corner of house	282	07	..	⅝ mile.

LANDEYE.

General locality.—Northeastern shore of Choptank River on point at south side of entrance to Island Creek, about 1½ miles east of Choptank River Light. (See Charts Nos. 34 and 35.)

Immediate locality.—Observed station is in cultivated land about 5 feet above high water, 15 yards east-southeast of edge of bank, 50 yards southwest of fringe of trees and bushes, 55 yards south-southwest of point of field and end of fringe of trees and bushes.

Marks.—Observed station is center point of triangle on standard cement monument projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Choptank River Light" (S 83° 39′ W)	0	00	00	.....	1¾ miles.
Chimney of house near Bachelors Point	48	33	..	.....	1¼ miles.
Left corner of barn	122	21	..	.....	¾ mile.
Left corner of barn	230	18	..	.....	¾ mile.
"Large water tank"	297	25	50	.....	2⅜ miles.

CHOPTANK RIVER LIGHT.

General locality.—In Choptank River about 1¼ miles southeast of Benoni Point, 1 mile south of entrance to Tred Avon River, and 8½ miles east of Blackwalnut Point. (See Charts Nos. 34, 35, and 37.)

Immediate locality.—Observed station is on hexagonal screw-pile structure known as Choptank River Lighthouse.

Marks.—Observed station is center of lantern on Choptank River Lighthouse.

References.—	°	′	″		
Chlora (S 57° 04′ E)	0	00	00	.....	2⅜ miles.

ST. MICHAELS P. E. CHURCH SPIRE.

General locality.—Western side of Miles River in town of St. Michaels at southeast corner of Talbot and Mill Streets. (See Chart No. 34.)

Immediate locality.—Observed station is on stone edifice known as St. Michaels Protestant Episcopal Church.

Marks.—Observed station is center point of steeple on St. Michaels Protestant Episcopal Church.

References.—None necessary.

MARGO.

General locality.—Northeastern shore of Miles River, about 1¼ miles north-northwest of Long Point and 2 miles east of St. Michaels. (See Chart No. 34.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 30 yards north of edge of marsh, 35 yards east of extreme point, and 55 yards west of bushes at edge of marsh. Cedar stub marking old triangulation station "Marengo 1899" is at edge of marsh, 29.61 meters S 57° 11′ W of observed station.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument. Reference station "Marengo 1899" is center of five copper nails in top of 5-inch cedar stub 5 feet long with top flush with the surface of the ground.

References.—	°	′	″		
"St. Michaels Water Tank" (N 86° 02′ W)	0	00	00	.....	2⅛ miles.
Right chimney of Fogg house	8	04	..	.....	1¾ miles.
Peak of near gable of house	17	01	..	.....	2 miles.
Weather vane on square tower on Dodson house	37	54	..	.....	2 miles.
Right tangent of point	46	46	..	.....	3¼ miles.
Persimmon tree	72	03	..	.....	120 yards.
Left of trees on narrowest part of Long Point	202	46	..	.....	⅜ mile.
Near peak of large house with large square chimney	288	29	..	.....	1¼ miles.
Large square chimney on Dodson tenant house	298	21	..	.....	1 mile.
"Marengo, 1899"	323	12	50	.....	29.61 meters.
Spindle on M. E. Church cupola	354	51	..	.....	2 miles.
"St. Michaels P. E. Church spire"	355	53	20	.....	2 miles.

GIBBS.

General locality.—Northeastern shore of Miles River about ½ mile northwest of extreme end of Long Point, and 1¼ miles south-southeast of entrance to Leeds Creek. (See Chart No. 34.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, 17 yards north of shore, 25 yards east of shore, 20 yards northeast of extreme end of point, 35 yards west-northwest of point of woods, and 35 yards southwest of woods.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Long" (S 44° 29′ E)	0	00	00	½ mile.
Chimney on side of roof of large building	21	03	..	1¾ miles.
West peak of long building	33	20	..	1¾ miles.
Southeast chimney of house	61	44	..	1 mile.
Chimney outside of northeast end of Slater house	102	28	..	1 mile.
Near peak of Leonard house	134	31	..	1½ miles.
"St. Michaels Water Tank"	151	57	40	2⅝ miles.
Right chimney of house	171	17	..	3 miles.
Weather vane on Dodson house	181	10	..	2¾ miles.
Right tangent of Tilghman Point	191	41	..	7¼ miles.
Left tangent of Fairview Point	192	55	..	2 miles.
Nail in blaze in pine tree	265	45	40	44.35 meters.
Nail in blaze in pine tree	301	38	50	29.15 meters.
Nail in blaze in pine tree	327	58	40	30.44 meters.

LONG.

General locality.—Northern shore of Miles River on Long Point about ⅛ mile southwest of entrance to Hunting Creek, and 1¼ miles north of railroad bridge across entrance to Oak Creek. (See Chart No. 34.)

Immediate locality.—Observed station is in cedar and pine woods about 6 feet above high water, 10 yards east-southeast of edge of bank protected by log breakwater, 11 yards northeast of point of bank, 4 yards northwest of edge of bank, and 30 yards northwest of point of sandy marsh.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Hunting" (N 56° 23′ E)	0	00	00	½ mile.
Nail in blaze in cedar tree (8 inches diameter)	6	25	00	4.45 meters.
Left peak of roof of house	23	21	..	1⅜ miles.
Spindle on barn cupola	103	47	..	1⅛ miles.
Smoke pipe of Royal Oak railroad station	131	37	..	1⅛ miles.
Nail in blaze in cedar tree (6 inches diameter)	181	35	10	2.53 meters.
"St. Michaels Water Tank"	235	36	40	3 miles.
Nail in blaze in twin cedar tree (16 inches diameter)	286	15	30	4.47 meters.
Left corner of roof of house	358	32	..	⅝ mile.

BEG.

General locality.—Southwestern shore of Hunting Creek on first prominent point north of Miles River entrance to Hunting Creek. (See Chart No. 34.)

Immediate locality.—Observed station is in scant pine woods about 5 feet above high water, 3 yards south of bank, 9 yards northwest of bank, and 11 yards west of point of bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Search" (N 20° 58′ W)	0	00	00	⅜ mile.
Spindle on barn cupola	10	11	..	⅞ mile.
Nail in blaze in pine tree (10 inches diameter)	22	49	50	2.34 meters.
Front peak of large house	46	16	..	⅜ mile.
Peak of near gable of house	90	13	..	½ mile.
Left peak of roof of house	108	29	..	1¼ miles.
Nail in blaze in pine tree (7 inches diameter)	164	32	30	2.97 meters.
Nail in blaze in pine tree (2 inches diameter)	240	49	10	2.23 meters.

SEARCH.

General locality.—Western shore of Hunting Creek about ½ mile north of Miles River. (See Chart No. 34.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, 11 yards northwest of shore, 40 yards south-southwest of shore, 35 yards west-southwest of point of shore, 3 yards east of water bushes, 20 yards south of bushes, and 25 yards southwest of water bushes.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Tug" (N 50° 43′ E)	0	00	00	¼ mile.
Spindle on barn cupola	47	45	..	½ mile.
Lightning rod on house	52	01	..	⅝ mile.
Peak of front gable of house	74	09	..	1¼ miles.
Nail in blaze in pine tree (14 inches diameter)	154	11	10	16.62 meters.

TUG.

General locality.—Eastern shore of Hunting Creek about ½ mile north of Miles River. (See Chart No. 34.)

Immediate locality.—Observed station is in cultivated land about 6 feet above high water, 10 yards east of edge of bank, 32 yards north of extreme point of shore, 7 yards northeast of a shanty, 14 yards northwest of shore, and trees along shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Hunting" (S 33° 40′ E)	0	00	00	½ mile.
Nail in blaze in cedar tree (4 inches diameter)	20	41	00	7.74 meters.
Left corner of shanty	53	38	..	7.47 meters.
Right corner of shanty	83	08	..	6.64 meters.
"St. Michaels Water Tank"	132	29	00	3 miles.
Left corner of house behind very large oak tree	185	12	..	¼ mile.
Left peak of ell of house	272	52	..	¼ mile.
Nail in blaze in birch tree (5 inches diameter)	288	04	00	18.48 meters.
Nail in blaze in birch tree (9 inches diameter)	304	51	10	12.84 meters.
Right peak of barn with cupola	350	50	..	⅜ mile.

HUNTING.

General locality.—Northwestern shore of Miles River on east side of entrance to Hunting Creek and ¼ mile northeast of Long Point. (See Chart No. 34.)

Immediate locality.—Observed station is in south corner of cultivated field, about 5 feet above high water, 2 yards northwest of edge of bank with bushes, 6 yards west of edge of bank, 7 yards northeast of point of bank, 50 yards north of edge of lower land, and 200 yards south of a large barn with a cupola.

Marks.—Observed station is center point of triangle on standard cement ground projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Spree" (N 79° 09′ E)	0	00	00	¼ mile.
Left peak of house	3	42	..	1 mile.
Near peak of large barn	46	35	..	¾ mile.
Nail in blaze in persimmon tree (6 inches diameter)	100	17	50	5.87 meters.
Spindle on barn cupola	105	03	..	1½ miles.
Left peak of building near railroad bridge	119	46	..	1½ miles.
Left tree on Long Point	154	17	..	½ mile.
Near peak of large building	240	35	..	1½ miles.
Spindle on barn cupola	271	29	..	200 yards.
Peak of near gable on house	337	27	..	¼ mile.
Nail in blaze in cherry tree (3 inches diameter)	339	21	10	7.98 meters.

SPREE.

General locality.—Northwestern shore of Miles River, about ½ mile east of entrance to Hunting Creek, and ¾ mile northeast of Long Point. (See Chart No. 34.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, 2 yards north of shore, 15 yards west-southwest of wire fence, and 25 yards south of trees. Cement monument marking reference station is 10.57 meters N 2° 18′ E of observed station and on line with cherry tree.

Marks.—Observed station is center of 2-inch tile pipe with top flush with surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—

	°	′	″	
"Whit" (N 60° 48′ E)	0	00	00	½ mile.
Left corner of boathouse	1	07	..	¼ mile.
Near corner of large house	3	50	..	1 mile.
Left peak of roof of house	38	17	..	⅝ mile.
Spindle on barn cupola	115	26	..	¾ mile.
Spindle on barn cupola	135	22	..	⅞ mile.
Left corner of roof of house	166	42	..	2 miles.
Nail in blaze in hackberry tree (5 inches diameter)	265	58	00	22.08 meters.
Nail in blaze in cherry tree (6 inches diameter)	300	33	..	23.17 meters.
REFERENCE STATION	301	30	30	10.57 meters.
Right peak of colonial house	354	15	..	¼ mile.
Nail in blaze in fence bost	358	52	30	15.04 meters.

WHIT.

General locality.—Northwestern shore of Miles River on east side of entrance to a small cove about 1¼ miles northeast of Long Point. (See Chart No. 34.)

Immediate locality.—Observed station is on a small marsh point near a small clump of cedar and hackberry trees about 1 foot above high water, 5 yards northwest of shore, 4 yards northeast of shore, and 6 yards north of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Dorrance" (N 25° 25′ E)	0	00	00	⅜ mile.
Nail in blaze in leaning hackberry tree (4 inches diameter)	2	56	10	8.07 meters.
Left corner of house	6	39	..	⅝ mile.
Center of windmill tower	19	49	..	1⅝ miles.
Center of windmill tower	32	32	..	1⅝ miles.
Near peak of house	42	55	..	⅝ mile.
Left peak of roof of house	126	31	..	⅜ mile.
Left corner of square house	186	34	..	1 mile.
Left corner of roof of house	220	51	..	¼ mile.
Near peak of large house	257	19	..	¾ mile.
Nail in blaze in twin hackberry tree (20 inches diameter)	291	51	40	4.49 meters.
Nail in blaze in hackberry tree (5 inches diameter)	325	35	10	4.98 meters.
Near peak of Dorrance house	356	02	..	⅜ mile.

DORRANCE.

General locality.—Northwestern shore of Miles River about 1⅜ miles southwest of Miles River bridge and 1⅝ miles northeast of Long Point. (See Chart No. 34.)

Immediate locality.—Observed station is about 5 feet above high water, 2 yards northwest of edge of bank, 9 yards west-southwest of a large tree on point of bank, 11 yards west of point of bank, and 12 yards southwest of edge of bank.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe, buried with top 2 inches below base of monument.

References.—	°	′	″	
"Tang" (N 40° 20′ E)	0	00	00	¼ mile.
Center of windmill tower	9	59	..	1⅜ miles.
Left corner of large house	18	06	..	2 miles.
Near corner of Henderson house	24	22	..	1⅜ miles.
Center of windmill on tower	25	18	..	1⅜ miles.
Nail in blaze in hickory tree (20 inches diameter)	27	42	50	8.58 meters.
Spindle on barn cupola	62	42	..	½ mile
Right peak of house	70	39	..	⅜ mile.
Near peak of house	136	04	..	¾ mile.
Nail in blaze in hickory tree (18 inches diameter)	153	18	00	5.79 meters.
Right corner of house	207	10	..	300 yards.
Left peak of small tenant house	259	04	..	300 yards.
Near corner of Dorrance house	328	55	..	300 yards.
Right corner of house	355	57	..	½ mile.

TANG.

General locality.—Northwestern shore of Miles River at south side of entrance to a cove, about 1⅛ miles southwest of Miles River bridge. (See Chart No. 34.)

Immediate locality.—Observed station is on marsh point about 1 foot above high water, 20 yards northwest of shore, 25 yards north of point of shore, 35 yards west-southwest of another point of shore, and 150 yards southeast of wire fence.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Johnson" (N 40° 46′ E)	0	00	00	.....	¼ mile.
Center of windmill tower	12	31	..	.....	¾ mile.
Right eave of Goldsborough house	21	26	..	.....	1⅝ miles.
Center of windmill tower	31	37	..	.....	1⅝ miles.
Near corner of large chimney of mansion	48	50	..	.....	1 mile.
Right peak of Mumford house	119	57	..	.....	⅜ mile.
Near peak of roof	149	05	..	.....	⅜ mile.
Near peak of Dorrance house	193	47	..	.....	¼ mile.
Near peak of house	288	44	..	.....	¼ mile.
Right corner of house	351	46	..	.....	¼ mile.

BETHEL.

General locality.—Southeastern shore of Miles River at north side of entrance to a small creek, about ¾ mile southwest of Miles River bridge. (See Chart No. 34.)

Immediate locality.—Observed station is in a clump of pine trees about 3 feet above high water, 9 yards south of shore of rounded point, and 20 yards east of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Figs" (S 38° 40′ W)	0	00	00	.....	⅜ mile.
Near peak of Dorrance house	36	02	..	.....	¾ mile.
Nail in blaze in cedar tree (14 inches diameter)	56	38	00	.....	5.76 meters.
Left corner of second story of Lowndes house	87	26	..	.....	⅜ mile.
Nail in blaze in persimmon tree (6 inches diameter)	125	54	30	.....	4.91 meters.
Center of windmill on tower	173	33	..	.....	½ mile.
Left corner of Goldsborough house	174	39	..	.....	1 mile.
Nail in blaze in locust tree (10 inches diameter)	197	25	40	.....	4.74 meters.
Center of windmill on tower	205	39	..	.....	⅝ mile.
Left corner of large chimney	267	50	..	.....	½ mile.

FIG.

General locality.—Southeastern shore of Miles River, about 1 mile southwest of Miles River bridge. (See Chart No. 34.)

Immediate locality.—Observed station is in cultivated land about 12 feet above high water, 4 yards southeast of edge of tree-covered bank, and 150 yards north-northwest of large barn with two cupolas.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Doctor" (S 51° 35′ W)	0	00	00	.....	¼ mile.
Near peak of house	33	44	..	.....	⅝ mile.
Nail in blaze in hackberry tree	35	07	10	.....	8.66 meters.
Left corner of Dorrance house	52	05	..	.....	½ mile.
Nail in blaze in cedar tree (4 inches diameter)	111	57	20	.....	9.39 meters.
Spindle on cupola on hip roof on house	149	46	..	.....	¾ mile.
Center of windmill on tower	162	56	..	.....	⅞ mile.
Point of tower on house	166	12	..	.....	⅞ mile.
Left corner of Henderson house	182	21	..	.....	1 mile.
Center of windmill on tower	183	42	..	.....	1 mile.
Near peak of tenant house	209	37	..	.....	¼ mile.
Spindle on left one of two cupolas on barn	289	54	..	.....	150 yards.
Near peak of large barn	333	00	..	.....	¼ mile.
Nail in blaze in oak tree (8 inches diameter)	354	32	00	.....	19.14 meters.

DOCTOR.

General locality.—Southeastern shore of Miles River, about 1¼ miles west-southwest of Miles River bridge and 1¾ miles northeast by east of Long Point. (See Chart No. 34.)

Immediate locality.—Observed station is in cultivated land back of bushes about 4 feet above high water, 4 yards southeast of edge of bank, 55 yards southwest of a wire fence, 80 yards west of corner of wire fence, 100 yards west by south of a house, and 100 yards west-southwest of a marsh point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"McConnell" (S 31° 17′ W)	0	00	00	.....	¼ mile.
Spindle on barn cupola	3	57	..	.....	¾ mile.
Near peak of house	36	41	..	.....	⅝ mile.
Peak of house	113	30	..	.....	¾ mile.
Nail in blaze in bush (3 inches diameter)	136	19	00	.....	6.66 meters.
Nail in blaze in apple tree (8 inches diameter)	154	11	30	.....	17.93 meters.
Left corner of house	159	17	..	.....	½ mile.
Center of tower	186	31	..	.....	1⅛ miles.
Left corner of shed	213	28	..	.....	100 yards.
Nail in blaze in fence post	228	15	50	.....	71.35 meters.
Right peak of large barn	344	54	..	.....	⅝ mile.
Near peak of roof of house	350	02	..	.....	⅝ mile.

McCONNELL.

General locality.—Southeastern shore of Miles River, near west side of entrance to a small cove about 1½ miles east-northeast of Long Point and 1⅝ miles southwest of Miles River bridge. (See Chart No. 34.)

Immediate locality.—Observed station is in cultivated land about 6 feet above high water, 15 yards southeast of edge of bank, 20 yards south of point of bank, and 40 yards west of edge of field at trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Kirk" (S 51° 55′ W)	0	00	00	.....	⅝ mile.
Left peak of roof of house	3	39	..	.....	2½ miles.
Left peak of large house	28	52	..	.....	¾ mile.
Front peak of house	45	04	..	.....	½ mile.
"St. Michaels Water Tank"	46	40	20	.....	4¼ miles.
Spindle on barn cupola	114	02	..	.....	½ mile.

References—Continued.	°	′	″		
Left corner of plastered house	120	37	..	.....	¼ mile.
Right corner of large house	145	16	..	.....	⅝ mile.
Right corner of house	169	12	..	.....	⅞ mile.
Nail in blaze in cherry tree (5 inches diameter)	190	40	30	.....	39.78 meters.
Nail in blaze in cherry tree (8 inches diameter)	213	24	40	.....	37.57 meters.
Nail in blaze in cherry tree (10 inches diameter)	237	57	00	.....	53.92 meters.
Right peak of barn	311	22	..	.....	¼ mile.

KIRK.

General locality.—Southeastern shore of Miles River, between two creeks about 1 mile east of Long Point. (See Chart No. 34.)

Immediate locality.—Observed station is in cultivated field, 7 feet above high water, 15 yards southeast of edge of bank, 35 yards west-southwest of point of bank covered with trees, and 40 yards west-northwest of a large sycamore tree.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Ham" (S 42° 29′ W)	0	00	00	.....	½ mile.
Near peak of large house	5	30	..	.....	1¾ miles.
Left corner of large house	76	08	..	.....	½ mile.
Highest near peak of house	94	49	..	.....	⅜ mile.
Right front peak of large house	135	52	..	.....	⅜ mile.
Nail in blaze in cedar tree (6 inches diameter)	158	58	20	.....	28.33 meters.
Left corner of large house	167	33	..	.....	1½ miles.
Center of windmill tower	178	17	..	.....	2⅛ miles.
Spindle on right barn cupola	189	36	..	.....	¾ mile.
Nail in blaze in cedar tree (5 inches diameter)	203	16	10	.....	37.05 meters.
Left peak of roof of large house	213	58	..	.....	⅜ mile.
Nail in blaze in sycamore tree (3 feet diameter)	234	24	30	.....	34.98 meters.
Spindle on barn cupola	346	07	..	.....	½ mile.
Left corner of square house	355	12	..	.....	½ mile.

HAM.

General locality.—Southeastern shore of Miles River, about ⅝ mile east-southeast of Long Point, ½ mile southeast of entrance to Hunting Creek, and ½ mile northeast of entrance to Newcomb Creek. (See Chart No. 34.)

Immediate locality.—Observed station is in cultivated land about 6 feet above high water, 12 yards south-southeast of edge of bank, 20 yards west-southwest of wooden fence at orchard, 65 yards north-northwest of fence at road, 70 yards west-northwest of large, square house, and 70 yards northwest of corner of fence.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Comb" (S 29° 52′ W)	0	00	00	⅜ mile.
Left peak of house	32	17	..	1⅜ miles.
Near peak of large house	62	08	..	1¾ miles.
"St. Michaels P. E. Church spire"	80	30	50	3⅛ miles.
"St. Michaels Water Tank"	82	09	20	3¾ miles.
Near peak of house	113	17	..	1¾ miles.
Left corner of house	146	00	..	⅝ mile.
Front peak of large colonial house	175	06	..	¾ mile.
Nail in blaze in fence post	187	33	20	17.32 meters.
Near corner of large house	195	43	..	3 miles.
Nail in blaze in cherry tree (24 inches diameter)	230	54	00	21.67 meters.
Left corner of house	250	47	..	73 yards.
Nail in blaze in cherry tree (24 inches diameter)	255	51	50	36.78 meters.
Spindle on barn cupola	305	51	..	⅝ mile.
Large, long sycamore tree	359	17	..	¼ mile.

COMB.

General locality.—Southeastern shore of Miles River about ⅛ mile north of entrance to Newcomb Creek and ¾ mile northeast of railroad bridge across entrance to Oak Creek. (See Chart No. 34.)

Immediate locality.—Observed station is in cultivated field about 6 feet above high water, 35 yards southeast of edge of bank, 30 yards east of edge of bank, 45 yards north of edge of bank on range with point, and 300 yards southwest of large lone sycamore tree.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above the surface of the ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Hall" (S 42° 06′ W)	0	00	00	¾ mile.
Left peak of house	31	22	..	1⅛ miles.
"St. Michaels Water Tank"	75	56	30	3⅝ miles.
Chimney outside of left end of Fogg cottage	80	56	..	3⅝ miles.
Weather vane on tower of Dodson house	95	57	..	4 miles.
Cupola on barn	122	11	..	1⅝ miles.
Left corner of house	146	52	..	1 mile.
Large lone sycamore tree	168	36	..	300 yards.
Windmill in range with house	187	18	..	1¼ miles.
Stack of cannery	317	48	..	¾ mile.
Spindle on barn cupola	325	59	..	½ mile.

HALL.

General locality.—Southern shore of Miles River about 100 yards west of west end of railroad trestle across entrance to Oak Creek, and 100 yards east of Royal Oak railway station. (See Chart No. 34.)

Immediate locality.—Observed station is in marsh about 1 foot above high water, 30 yards southwest of shore, 40 yards south of shore, 85 yards west-northwest of shore at corner of shed, and 35 yards north-northeast of near rail of railway track.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above the surface of the ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Barnett" (N 39° 14′ W)	0	00	00	.....	¾ mile.
Center of tower on Dodson house	7	37	..	.....	4⅛ miles.
Chimney of middle of Hall Building	28	03	..	.....	2⅝ miles.
Near chimney of Speck house	62	40	..	.....	1⅝ miles.
Chimney of Dorrance house	71	47	..	.....	2½ miles.
Chimney on southeast end of house	108	32	..	.....	½ mile.
Left tangent of shed	147	08	..	.....	85 yards.
Northwest peak of barn	165	55	..	.....	¼ mile.
North peak of Kirby house	234	38	..	.....	½ mile.
Chimney of house	281	37	..	.....	¾ mile.
Chimney on railroad station	299	12	..	.....	100 yards.
Left chimney of house	330	38	..	.....	½ mile.

BARNETT.

General locality.—Southern shore of Miles River about ¾ mile northwest of entrance to Oak Creek, and ⅞ mile southeast of entrance to Spencers Cove. (See Chart No. 34.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, 9 yards southwest of shore, 12 yards northwest of shore, 18 yards west-northwest of extreme end of point, and 8 yards northeast of foot of a bank 6 feet high.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Maiden" (N 26° 26′ W)	0	00	00	.....	½ mile.
Cupola of Rieman barn	16	16	..	.....	2⅜ miles.
Left chimney of Hall house	25	57	..	.....	2 miles.
Near chimney of house	76	47	..	.....	1½ miles.
Windmill	85	05	..	.....	2 miles.
Left chimney of house	93	46	..	.....	2 miles.
Near chimney of square roof house	102	21	..	.....	1⅝ miles.
Spindle on cupola on barn	140	28	..	.....	1 mile.
Southwest peak of barn	162	36	..	.....	⅞ mile.
Nail in blaze in oak tree (26 inches diameter)	177	12	50	.....	9.22 meters.
Nail in blaze in cedar tree (8 inches diameter)	228	16	40	.....	5.04 meters.
Nail in blaze in pine tree (16 inches diameter)	256	11	20	.....	10.29 meters.

MAIDEN.

General locality.—Southwestern shore of Miles River about ½ mile west of Long Point and 2¼ miles southeast of St. Michaels. (See Chart No. 34.)

Immediate locality.—Observed station is just outside of a fringe of trees near a small marsh skirting the shore on a point about 3 feet above high water, 3 yards south of shore, 5 yards northeast of foot of bank, 7 yards east of point of bank. Cement monument marking reference station is 4.34 meters S 76° 57′ W of observed station. Stone monument marking "Miles River" (1899) is 38.22 meters S 48° 29′ E of observed station.

Marks.—Observed station is center of 2-inch tile pipe 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. New reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Old triangulation station (Miles River, 1899) is center of cross lines on 6-inch square top stone monument.

References.—	°	′	″	
"Stony" (N 48° 53′ W)	0	00	00	⅞ mile.
Right chimney of house	5	01	..	2⅜ miles.
Weather vane on Dodson house	18	25	..	2⅞ miles.
Left tangent of woods on Fairview Point	32	34	..	2½ miles.
Cupola on Rieman barn	42	46	..	2 miles.
Northwest chimney of house	55	21	..	1⅝ miles.
Weather vane on barn cupola	69	32	..	1¾ miles.
North chimney of house	128	13	..	2¼ miles.
Large square chimney on old house	143	04	..	1½ miles.
"Miles River 1899," stone monument	180	24	00	38.22 meters.
Chimney on near side of roof of large building	190	48	..	1⅜ miles.
West peak of large building near draw	198	07	..	1⅛ miles.
REFERENCE STATION (cement monument)	245	50	40	4.34 meters.
Nail in blaze in cherry tree (22 inches diameter)	259	04	50	4.86 meters.
Nail in blaze in cedar tree (5 inches diameter)	310	27	20	3.37 meters.
Nail in blaze in cedar tree (8 inches diameter)	335	15	20	3.73 meters.
Chimney of Slater house	353	23	..	⅝ mile.

STONY.

General locality.—Southwestern shore of Miles River on point at east side of entrance to Spencer Cove about 1¼ miles southeast of St. Michaels. (See Chart No. 34.)

Immediate locality.—Observed station is in clump of large oak and birch trees about 8 feet above high water, 14 yards south of shore, 16 yards south-southwest of a point and 12 yards west of another point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe with top 2 inches below base of monument.

References.—	°	′	″	
"Millwind" (N 31° 16′ W)	0	00	00	1½ miles.
Weather vane on tower of Dodson house	7	41	..	2¼ miles.
Near peak of cupola on Rieman barn	50	21	..	1⅝ miles.
Peak of west gable of Hall house	63	47	..	1⅜ miles.
Spindle on cupola of house	80	10	..	1¼ miles.
Tangent of trees	162	22	..	¼ mile.
Nail in blaze in white oak tree (9 inches diameter)	213	25	20	4.51 meters.
Nail in blaze in holly tree (13 inches diameter)	242	33	00	9.43 meters.
Nail in blaze in pine tree (10 inches diameter)	317	04	10	12.34 meters.
Flagstaff on water tank	334	33	..	1½ miles.
Left chimney of house	342	59	..	1⅝ miles.

CHLORA.

General locality.—Northeastern shore of Choptank River, on Chlora Point, about 1¼ miles south-southeast of entrance to Island Creek, 1½ miles northwest of entrance to La Trappe Creek, and 2⅜ miles southeast of Choptank River Light. (See Chart No. 35.)

Immediate locality.—Observed station is about 8 feet above high water, 6 yards east-northeast of edge of bank, 9 yards south of wire fence, and 18 yards north of edge of bank at walnut tree. Cement monument marking reference station is 6.91 meters N 78° 43′ E of observed station.

Marks.—Observed station is hole in center of cement-filled tile pipe 4 inches diameter with top about 2 inches below surface of ground. Reference station is center point of triangle on standard cement monument projecting 4 inches above the surface of the ground.

References.—	°	′	″	
"Choptank River Light" (N 57° 03′ W)	0	00	00	2⅜ miles.
Nail in blaze in wild-cherry tree (3 inches diameter)	74	39	10	3.11 meters.
Nail in blaze in cedar tree (4 inches diameter)	129	31	00	9.01 meters.
REFERENCE STATION	135	46	10	6.91 meters.
Nail in blaze in walnut tree (14 inches diameter)	220	12	10	16.70 meters.
Near peak of house	254	53	..	3 miles.
Spindle on cupola	267	24	..	2⅜ miles.
"Large Water Tank"	294	46	30	1½ miles.

TRAPPE.

General locality.—Northern shore of Choptank River, at west side of entrance to La Trappe Creek, about 1½ miles southeast of Chlora Point. (See Chart No. 35.)

Immediate locality.—Observed station is on grassy gravel point about 3 feet above high water, 4 yards north of shore, 6 yards east-northeast of shore, and 17 yards south by east of large cedar tree. Cement monument marking reference station is 12.62 meters N 47° 40′ E of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 2 inches above surface of ground.

References.—	°	′	″	
"Lan" (N 25° 07′ E)	0	00	00	½ mile.
Cedar tree	11	05	..	35 yards.
Red beacon	96	50	00	¼ mile.
Right chimney of house	130	16	..	3 miles.
"Black Beacon"	145	54	40	¼ mile.
Northerly peak of Travers Wharf house	196	15	..	2⅞ miles.
Center of smaller water tank	241	02	..	2⅝ miles.
"Large Water Tank"	241	44	30	2⅝ miles.
Nail in blaze in cedar tree (20 inches diameter)	294	50	50	7.23 meters.
REFERENCE STATION	350	06	40	12.62 meters.
Nail in blaze in cedar tree (22 inches diameter)	353	23	40	15.99 meters.

LAN.

General locality.—Northwestern shore of La Trappe Creek, about ¾ mile north of Choptank River. (See Chart No. 35.)

Immediate locality.—Observed station is on tree-fringed high land about 10 feet above high water, 8 yards southeast of shore, 85 yards north of shore, and 105 yards northeast of extreme end of point.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Rice" (N 60° 09′ E)	0	00	00	.....	⅜ mile.
Near peak of barn	16	13	..	.....	¾ mile.
Chimney of abandoned house	41	40	..	.....	⅜ mile.
Chimney of 1½-story house	47	44	..	.....	⅜ mile.
Peak of metal-roofed barn	62	58	..	.....	½ mile.
Chimney of house in trees	69	06	..	.....	½ mile.
Nail in blaze in locust tree (4 inches diameter)	185	07	30	.....	12.46 meters.
"Large Water Tank" (Castlehaven)	198	49	00	.....	2⅞ miles.
Chimney on small house	235	52	..	.....	¼ mile.
Nail in blaze in locust tree (6 inches diameter)	292	39	00	.....	26.39 meters.
Near peak of barn	336	14	..	.....	¼ mile.

RICE.

General locality.—Northwestern shore of La Trappe Creek, about ⅛ mile northeast of a wharf and ¾ mile north-northeast of Choptank River. (See Chart No. 35.)

Immediate locality.—Observed station is on tree-fringed cultivated land, about 3 feet above high water, 28 yards south of shore, 15 yards south of edge of marsh and cultivated land, and 50 yards west of a small creek.

Marks.—Observed station is center point of triangle on standard cement monument projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Gis" (S 14° 38′ W)	0	00	00	.....	⅜ mile.
Nail in blaze in locust tree (5 inches diameter)	12	23	30	.....	21.00 meters.
Chimney between two 1-story houses	57	22	..	.....	125 yards.
Near peak of barn	91	01	..	.....	¼ mile.
Chimney of small house	205	01	..	.....	150 yards.
Near peak of barn	254	34	..	.....	⅜ mile.
Nail in blaze in locust tree (5 inches diameter)	255	54	40	.....	19.23 meters.
Nail in blaze in locust tree (3 inches diameter)	314	02	20	.....	11.99 meters.

INEZ.

General locality.—Eastern shore of La Trappe Creek, on southwestern shore of a small cove about ¾ mile northeast of Choptank River. (See Chart No. 35.)

Immediate locality.—Observed station is on high land in pasture field about 10 feet above high water 3 yards south of edge of tree-fringed bank, and 125 yards northeast of small house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top about 2 inches below base of monument.

References.—	°	′	″		
"Gis" (S 60° 27′ W)	0	00	00	.....	⅛ mile.
Chimney of 1½-story house	3	22	..	.....	125 yards.
Near peak of abandoned house	19	36	..	.....	125 yards.
Nail in blaze in hackberry tree (3 inches diameter)	41	31	20	.....	11.11 meters.
Point of dairy roof	82	20	..	.....	¼ mile.
Chimney of 1½-story house	87	28	..	.....	¼ mile.
Peak of roof of small house	122	59	..	.....	¼ mile.

References—Continued.	°	′	″		
Peak of barn	130	00	..	.....	7/8 mile.
Nail in blaze in locust tree (4 inches diameter)	151	19	40	.....	3.44 meters.
Peak of barn	282	34	..	.....	1/8 mile.
Right chimney of house in trees	302	19	..	.....	1/4 mile.
"Black Beacon"	339	49	40	.....	7/8 mile.

GIS.

General locality.—Southeastern shore of LaTrappe Creek, about 1/4 mile south of a wharf, and 1/4 mile northeast of Choptank River. (See Chart No. 35.)

Immediate locality.—Observed station is on sand and marsh point about 1 foot above high water, 11 yards southeast of shore, 13 yards north of shore, 20 yards northeast of shore, and 30 yards north of high cultivated land.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Grubin" (S 20° 49′ W)	0	00	00	.....	3/8 mile.
"Black Beacon"	14	34	50	.....	5/8 mile.
Red Beacon	20	09	30	.....	3/8 mile.
Chimney of house	93	09	..	.....	1/4 mile.
Left chimney on house	149	29	..	.....	3/8 mile.
Chimney between two small houses	161	51	..	.....	1/4 mile.
Near peak of 1 1/2-story house	180	36	..	.....	3/8 mile.

GRUBIN.

General locality.—Northern shore of Choptank River on east side of entrance to La Trappe Creek. (See Chart No. 35.)

Immediate locality.—Observed station is on grassy marsh back of gravel beach, about 1 foot above high water, 13 yards east of shore, 13 yards south of shore, 20 yards southeast of extreme end of point, and 100 yards northwest of pond.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Howard" (S 1° 21′ W)	0	00	00	.....	2 7/8 miles.
South peak of Travers Wharf house	45	02	..	.....	3 miles.
"Black Beacon"	51	56	10	.....	1/4 mile.
Center of smaller water tower	86	56	..	.....	3 miles.
"Large water tank"	87	49	30	.....	2 7/8 miles.
Red Beacon	90	47	10	.....	1/4 mile.
South peak of shed	153	07	..	.....	5/8 mile.
Near peak of barn	181	58	..	.....	5/8 mile.
Nail in blaze in stump (7 inches diameter)	194	47	40	.....	12.17 meters.
Chimney of house	199	51	..	.....	3/8 mile.
Nail in blaze in cedar tree (5 inches diameter)	225	34	30	.....	12.04 meters.

BLACK BEACON.

General locality.—Northeastern shore of Choptank River off entrance to LaTrappe Creek, about 1 5/8 miles northeast of Horn Point. (See Chart No. 35.)

Immediate locality.—Observed station is on a cylindrical foundation known as LaTrappe Creek outer light.

Marks.—Observed station is center point of lantern on LaTrappe Creek outer light.

References.—None necessary.

HOWELLS.

General locality.—Northern shore of Choptank River on Howells Point about 1⅝ miles east of Horn Point, 2 miles north of entrance to Jenkins Creek, and 2 miles northwest of Hambrooks Bar Beacon. (See Chart No. 35.)

Immediate locality.—Observed station is on a long grassy gravel point about 3 feet above high water, 50 yards south-southeast of old fish shanty and trees, 25 yards south of highest level part of land, 11 yards west of shore, 3 yards east of shore, and ¼ mile north of extreme end of point. Cement monument marking reference station is 22.82 meters N 17° 53′ E of observed station.

Marks.—Observed station is nail in center of cedar stub in center of 4-inch tile pipe with top of pipe 4 inches below surface of ground. Reference station is center point of triangle on standard cement monument projecting 5 inches above surface of ground.

References.—

	°	′	″	
"Red" (N 78° 26′ E)	0	00	00	1⅝ miles.
South peak of Kirby Wharf house	12	35	..	2 miles.
"Hambrooks Bar Beacon"	44	16	50	2 miles.
Flagstaff on boathouse	57	19	..	1⅝ miles.
"Dicks Water Tank"	62	22	10	1¾ miles.
"Cambridge Standpipe"	69	41	10	3¼ miles.
Spindle on barn cupola	137	22	..	1¾ miles.
"Large water tank"	209	51	40	3⅜ miles.
"Black Beacon"	251	22	20	1⅛ miles.
Nail in blaze in dead locust tree (15 inches diameter)	285	21	50	9.83 meters.
Nail in blaze in locust tree (3 inches diameter)	294	01	40	13.67 meters.
Nail in blaze in pin oak tree (11 inches diameter)	297	59	10	27.28 meters.
REFERENCE STATION	299	26	40	22.82 meters.

RED.

General locality.—Northern shore of Choptank River at eastern side of Dickinsons Bay, about 1⅝ miles east-northeast of Howells Point and ¾ mile northwest of Kirby Wharf. (See Chart No. 35.)

Immediate locality.—Observed station is on cultivated land on first high bluff upstream from Howells Point, about 12 feet above high water, 8 yards northeast of edge of bank, 10 yards north of edge of bank, and 10 yards east of edge of bank. Cement monument marking reference station is 23.65 meters N 89° 58′ E of observed station and almost on line with east chimney of house.

Marks.—Observed station is nail in stub in center of 2-inch tile pipe with top of pipe 6 inches below surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 5 inches above surface of ground.

References.—

	°	′	″	
"Hambrooks Bar Beacon" (S 3° 39′ E)	0	00	00	1⅜ miles.
"Cambridge Standpipe"	0	30	10	3 miles.
"Dicks Water Tank"	19	34	50	1¾ miles.
Center of silo tower	51	38	..	3 miles.
"Large Water Tank"	102	32	50	4¾ miles.
Near peak of barn with two cupolas	148	28	..	1 mile.
REFERENCE STATION	229	16	20	23.63 meters.
East chimney of house	229	38	..	¼ mile.
Near peak of large barn	282	07	..	¾ mile.
Right peak of Kirby Wharf house	308	26	..	⅝ mile.
Near peak of hospital	348	39	..	3¼ miles.
"East Cambridge Tall Stack"	351	07	40	3 miles.

DOUBLE.

General locality.—Northern shore of Choptank River nearly opposite Cambridge about 1 mile northwest of entrance to Bolingbroke Creek and 1½ miles east of Hambrooks Bar Beacon. (See Chart No. 35.)

Immediate locality.—Observed station is on point of marsh separated from field by a row of locust trees about 12 yards northeast of shore, 20 yards north of shore, 14 yards east of shore, and 30 yards south of a large wild-cherry tree.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"East Cambridge tall stack" (S 32° 33′ W)	0	00	00	1¾ miles.
"Dicks Water Tank"	51	44	20	2 miles.
"Hambrooks Bar Beacon"	60	01	00	1½ miles.
"Large Water Tank"	76	25	40	6⅝ miles.
Chimney of house	107	34	..	2⅛ miles.
Nail in blaze in wild-cherry tree (24 inches diameter)	142	08	30	26.69 meters.
Nail in blaze in locust tree (5 inches diameter)	177	10	40	24.92 meters.
Chimney outside of near end of house	177	29	..	½ mile.
Nail in blaze in wild-cherry tree (4 inches diameter)	207	20	40	34.66 meters.
Spindle on barn cupola	248	23	..	½ mile.
Chimney of house	320	47	..	2¼ miles.
Spindle on cupola	347	55	..	2 miles.
Near peak of hospital	354	52	..	1¾ miles.

BOLING.

General locality.—Northern shore of Choptank River on an island in entrance to Bolingbroke Creek about ¾ mile northwest of Chancellors Point and 2 miles east-northeast of Cambridge. (See Chart No. 35.)

Immediate locality.—Observed station is in rushes on a sandy marsh about 3 feet above high water, 6 yards northeast of shore, 7 yards north of shore, 8 yards east of shore, and 160 yards northwest by north of entrance to Bolingbroke Creek.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"East Cambridge Tall Stack" (S 60° 19′ W)	0	00	00	1⅞ miles.
Chimney outside of left end of mansard-roof house	33	11	..	2⅞ miles.
Flagpole on boathouse	37	05	..	2¾ miles.
"Hambrooks Bar Beacon"	44	30	00	2⅜ miles.
Nail in blaze in cedar tree (8 inches diameter)	134	40	30	26.53 meters.
Nail in blaze in old cedar stump (13 inches diameter)	191	39	00	5.29 meters.
Near peak of barn cupola	249	14	..	1¾ miles.
Near peak of barn	270	14	..	1⅝ miles.
Chimney of house	294	34	..	1½ miles.
Nail in blaze in cedar tree (11 inches diameter)	300	25	40	4.56 meters.
Chimney of house	313	10	..	1⅝ miles.

REAR.

General locality.—Northern shore of Choptank River about ⅛ mile northwest of Chancellors Point and ¼ mile southeast of entrance to Bolingbroke Creek. (See Chart No. 35.)

Immediate locality.—Observed station is in cultivated field on bluff about 12 feet above high water, 65 yards north of edge of bank, 110 yards northeast of edge of bank and trees, 160 yards east of edge of bank, and 95 yards northwest of bottom of gully.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Barber" (N 35° 22′ E)	0	00	00	1 mile.
Near corner of square cupola	27	51	..	¼ mile.
Chimney of house	78	16	..	1½ miles.
Near peak of barn cupola	105	00	..	1¼ miles.
Near peak of large barn	136	08	..	1⅜ miles.
Left peak of large barn	177	19	..	1¾ miles.
Barn cupola	214	22	..	2 miles.
"Cambridge Standpipe"	221	13	50	2¾ miles.
"Hambrooks Bar Beacon"	255	40	50	3 miles.
"Large Water Tank"	257	19	00	8¼ miles.
Chimney of house	280	15	..	1¼ miles.
Chimney outside near end of house	288	83	..	1¾ miles.

CHANCELLOR.

General locality.—Northern shore of Choptank River on Chancellors Point about ¾ mile north of entrance to Hurst Creek and ¾ mile southeast of entrance to Bolingbroke Creek. (See Chart No. 35.)

Immediate locality.—Observed station is on sand and grass point about 1 foot above high water, 35 yards west of shore, 35 yards northeast of shore, 60 yards north by west of extreme end of point, 13 yards south of line of cedar stumps, 27 yards southeast of large lone pine tree, and almost on range of Cambridge Standpipe and left peak of hospital. Cement monument marking reference station is 4.70 meters N 31° 31′ W of observed station and almost on line to large lone pine tree.

Marks.—Observed station is nail in cedar stub in center of 4-inch tile pipe with top flush with surface of ground. Reference station is center point of triangle on standard cement monument projecting 6 inches above surface of ground.

References.—

	°	′	″	
"Cambridge Standpipe" (S 78° 00′ W)	0	00	00	2⅞ miles.
REFERENCE STATION	70	29	10	4.70 meters.
Nail in blaze in lone pine tree (16 inches diameter)	71	00	00	24.74 meters.
Southeast corner of square cupola	115	45	..	350 yards.
Nail in blaze in cedar stump (16 inches diameter)	122	32	50	12.40 meters.
Chimney of house	216	38	..	1¼ miles.
Near peak of house	245	53	..	1⅜ miles.
Chimney on left end of house	282	44	..	1¼ miles.
Chimney of house	328	52	..	1⅝ miles.
Nail in blaze in small pine tree	350	04	40	23.26 meters.
Left peak of hospital	359	06	..	2¼ miles.

BARBER.

General locality.—Northwestern shore of upper Choptank River about 1 mile north-northeast of Chancellors Point and about ⅞ mile west-southwest of Goose Point. (See Chart No. 35.)

Immediate locality.—Observed station is on marsh about 2 feet above high water, 12 yards north-northwest of county road and shore, 45 yards west-southwest of a cabin on the county road, 25 yards west of two cedar trees just across road, and 65 yards south of a wire fence.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe with top 2 inches below base of monument.

References.—	°	′	″	
"Duck" (N 75° 49′ E)	0	00	00	⅞ mile.
Nail in blaze in cedar tree (10 inches diameter)	5	04	50	19.17 meters.
Smokepipe on wharf house	35	48	..	1½ miles.
Near peak of house	57	06	..	1½ miles.
Northwest peak of house	92	22	..	1¾ miles.
Chimney on left end of house	116	41	..	2¼ miles.
Near peak of house with square cupola	133	33	..	⅞ mile.
Large lone tree	208	40	..	350 yards.
Nail in blaze in cedar tree (5 inches diameter)	209	58	40	36.42 meters.
Nail in blaze in persimmon tree (5 inches diameter)	323	12	30	36.01 meters.
Near corner of barn	347	15	..	21.96 meters.
Nail in blaze in cedar tree (10 inches diameter)	359	16	50	20.12 meters.

DUCK.

General locality.—Northern shore of Choptank River on Goose Point ¾ mile north of Oyster Shell Point and 1¾ miles northeast of Chancellors Point. (See Chart No. 35.)

Immediate locality.—Observed station is on edge of sand beach on lower part of point about on level with high water, 15 to 20 yards southeast of a group of cedar and persimmon trees. Cement monument marking reference station is 12.61 meters N 28° 19′ W of observed station.

Marks.—Observed station is center of 2-inch tile pipe projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 5 inches above surface of ground.

References.—	°	′	″	
"Jam" (N 35° 54′ E)	0	00	00	1⅜ miles.
Left peak of large barn	46	01	..	1¾ miles.
Center of roof of house	82	31	..	1⅜ miles.
Smoke pipe on wharf house	115	52	..	⅞ mile.
Left peak of barn cupola	160	21	..	2 miles.
Near corner of square chimney of house	174	03	..	2¾ miles.
Chimney of house	192	50	..	4 miles.
Near corner of square cupola on house	197	16	..	1⅝ miles.
Nail in blaze in persimmon tree (2 inches diameter)	238	59	40	21.22 meters.
REFERENCE STATION	295	47	30	12.61 meters.
Nail in blaze in persimmon tree (3 inches diameter)	297	48	50	15.20 meters.
Nail in blaze in cedar tree (3 inches diameter)	332	27	20	14.28 meters.

JAM.

General locality.—Western shore of Choptank River on Jamaica Point opposite entrance to Warwick River. (See Chart No. 35.)

Immediate locality.—Observed station is on marsh point about 3 feet above high water, 25 yards west-northwest of end of wharf, 7 yards north of county road, 11 yards northeast of county road, 13 yards south of shore, 8 yards west-southwest of shore, and 30 yards north by east of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Spindle" (N 14° 53′ W)	0	00	00	⅜ mile.
Chimney outside near end of house	16	33	..	2 miles.
Chimney of large house	19	46	00	2 miles.
"Wick"	76	04	..	¾ mile.
Chimney of house	82	48	..	1⅛ miles.
Left chimney of large brick house	90	07	..	1½ miles.
Left corner of wharf house	95	57	20	49.81 meters.
Right corner of wharf house	108	14	..	46.85 meters.
Nail in first plank on level part of wharf	110	03	50	24.94 meters.
Near peak of large barn	144	56	..	1½ miles.
Chimney of house	171	30	..	2 miles.
Near peak of house	202	51	..	2¼ miles.
Near peak of house near wharf	211	21	..	2 miles.
Right peak of barn cupola	218	30	..	2⅛ miles.
Near corner of fence	269	38	..	¼ mile.

SPINDLE.

General locality.—Western shore of upper Choptank River about ⅜ mile north of Jamaica Point Wharf. (See Chart No. 35.)

NOTE.—This triangulation landmark was destroyed before this publication was prepared, and therefore it is not described, although its name and location are shown on Chart No. 35.

BANK.

General locality.—Western shore of upper Choptank River about 1 mile north-northwest of Jamaica Point and 1¼ miles southwest of entrance to Cabin Creek. (See Chart No. 35.)

Immediate locality.—Observed station is in a cultivated field on a tree-fringed bluff about 20 feet above high water, 10 yards northwest of edge of bluff, 10 yards west of edge of bluff, and 12 yards north of edge of bluff.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Raccoon" (N 19° 26′ E)	0	00	00	⅝ mile.
Left chimney of modern house	5	55	..	1¼ miles.
Nail in blaze in branch of double oak tree (12 and 18 inches diameter)	34	56	40	7.03 meters.
Chimney of house in woods	54	30	..	1½ miles.
Chimney of shanty in woods	86	07	..	1⅛ miles.
Chimney of house	103	23	..	1¾ miles.
Nail in blaze in oak tree (8 inches diameter)	124	13	10	8.55 meters.
Nail in blaze in cedar tree (7 inches diameter)	161	00	10	21.11 meters.
Front peak of house	168	29	..	⅛ mile.

RACCOON.

General locality.—Western shore of upper Choptank about ⅜ mile south of entrance to a small creek, 1½ miles north of Jamaica Point, and 1 mile west of entrance to Cabin Creek. (See Chart No. 35.)

Immediate locality.—Observed station is between 2 clumps of trees on sandy marsh about 2 feet above high water, 8 yards northwest of shore, 12 yards west of shore, 16 yards north of shore, and 200 yards southwest of woods beyond marsh.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Blind" (N 52° 15′ E)	0	00	00	¾ mile.
Chimney outside near end of house	34	22	..	1¾ miles.
Near peak of modern house	41	07	..	1⅞ miles.
Chimney of house	77	59	..	1¾ miles.
Near peak of house	105	09	..	2 miles.
Chimney of house	113	14	..	3⅜ miles.
Near peak of Jamaica Point Wharf house	120	42	..	1½ miles.
Left corner of house	144	31	..	1 mile.
Nail in blaze in oak tree (10 inches diameter)	155	21	50	12.66 meters.
Nail in blaze in large pine tree (12 inches diameter)	204	45	40	37.12 meters.
Nail in blaze in oak tree (10 inches diameter)	329	46	20	26.50 meters.
Chimney outside near end of house	350	04	..	⅝ mile.

BLIND.

General locality.—Northwestern shore of Choptank River about ¼ mile west-northwest of entrance to Cabin Creek, and 2 miles north of Jamaica Point. (See Chart No. 35.)

Immediate locality.—Observed station is on a marsh point between river and line of locust trees about 1 foot above high water, 11 yards north of shore, 15 yards west of shore, 16 yards northeast of shore at duck blind, and 25 yards east by north of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Up" (N 61° 44′ E)	0	00	00	¾ mile.
Chimney outside of near end of old house	47	17	..	1 mile.
Peak of side gable of modern house	57	24	..	1¼ miles.
Right peak of Jamaica Point wharf house	131	24	..	2 miles.
Chimney on house	162	44	..	1¾ miles.
Nail in blaze in locust tree (4 inches diameter)	201	23	50	10.28 meters.
Nail in blaze in locust tree (4 inches diameter)	226	52	20	7.53 meters.
Nail in blaze in locust tree (6 inches diameter)	270	06	10	5.72 meters.
Nail in blaze in locust tree (10 inches diameter)	322	04	50	14.25 meters.

UP.

General locality.—Northwestern shore of upper Choptank River about ¾ mile north of entrance to Cabin Creek and 2¼ miles north-northeast of Jamaica Point. (See Chart No. 35.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 55 yards northwest of extreme end of point, 25 yards west of shore, and 20 yards north of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 8 inches above surface of marsh. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Myrtle" (S 60° 25′ E)	0	00	00	⅜ mile.
Peak of side gable of modern house	34	14	..	1 mile.
Chimney of old house	36	10	..	⅝ mile.
Tangent of point	77	45	..	1 mile.
House	111	45	..	1⅞ miles.
Tangent of point	122	02	..	⅝ mile.
House	273	00	..	1½ miles.
Tangent of point	305	15	..	175 yards.

MYRTLE.

General locality.—Eastern shore of upper Choptank River about ½ mile north of entrance to Cabin Creek. (See Chart No. 35.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 17 yards east of shore, 20 yards south of extreme end of point, 15 yards southwest of small gut, and 250 yards west of woods.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Hut" (S 7° 47′ W)	0	00	00	⅜ mile.
Left peak of old barn	6	41	..	⅞ mile.
Tangent of point	32	14	..	⅞ mile.
Chimney of house	53	01	..	2 miles.
Chimney outside east end of house	78	42	..	1¼ miles.
Near peak of shanty	157	18	..	¾ mile.
Stack of cannery at Choptank	180	51	..	2¾ miles.
Left peak of house	194	19	..	2¼ miles.
Tangent of point	203	56	..	¼ mile.
Right peak of roof showing over woods	314	37	..	¾ mile.
Large lone pine tree	333	11	..	300 yards.

HUT.

General locality.—Eastern shore of upper Choptank River on north side of entrance to Cabin Creek. (See Chart No. 35.)

Immediate locality.—Observed station is on a marsh point about 1 foot above high water, 15 yards east of shore, 50 yards northwest of shore, 20 yards northeast of extreme end of point, 90 yards southwest of a hut, and 80 yards south-southwest of trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"House" (S 46° 38′ W)	0	00	00	¾ mile.
Chimney of house	25	27	..	1¾ miles.
Chimney outside of house	60	33	..	1¼ miles.
Cupola on barn	132	48	..	2½ miles.
Right corner of hut	173	53	20	90 yards.
Chimney outside near end of old house	242	13	..	½ mile.
Peak of near gable of modern house	281	42	..	½ mile.
Right peak of old barn	337	43	..	⅜ mile.

HOUSE.

General locality.—Eastern shore of Choptank River about ¼ mile south of entrance to Cabin Creek. 1 mile north of entrance to Warwick River, and on south side of a small cove. (See Chart No. 35.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, 14 yards south of shore, 26 yards southeast of shore, 35 yards southwest by west of shore and mouth of small creek in marsh and 175 yards north of woods.

Marks.—Observed station is center point of triangle on standard cement monument projecting 3 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Saw" (S 6° 22′ W)	0	00	00	⅜ mile.
Two pine trees	5	49	..	.....
Left peak of shanty	126	49	..	1⅛ miles.
Chimney outside near end of house	131	06	..	1⅛ miles.
Near peak of house	137	29	..	1⅛ miles.
Tangent of point	172	07	..	¼ mile.
Stack of cannery at Choptank	189	09	..	4 miles.
Near peak of house	193	59	..	4½ miles.
Near peak of shack	219	48	..	⅞ mile.
Cut in woods	348	16	..	½ mile.

SAW.

General locality.—Eastern shore of Choptank River about ¼ mile northeast of entrance to Warwick River, and 1 mile northeast by east of Jamaica Point. (See Chart No. 35.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, 22 yards east of shore, 26 yards southeast of shore, 37 yards northeast of shore, 200 yards west-northwest of dense woods.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe, buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Wick" (S 19° 01′ W)	0	00	00	½ mile.
Right peak of Jamaica Point Wharf house	24	57	..	1 mile.
Left corner of very wide chimney on brick house	32	14	..	1¼ miles.
Right corner of railing on roof of house	70	36	..	1⅛ miles.
Chimney of house	86	44	..	1¼ miles.
Near peak of house	135	04	..	1¼ miles.
Chimney outside left end of house	152	42	..	2 miles.
Cupola or steeple	181	04	00	5 miles.
Near corner of brick house	311	51	..	½ mile.

WICK.

General locality.—Eastern shore of upper Choptank River on northern side of entrance to Warwick River, about ¼ mile northeast of Jamaica Point. (See Chart No. 35.)

Immediate locality.—Observed station is on sandy ridge between beach and marsh, about 2 feet above high water, 8 yards northeast of shore, 10 yards north of shore, 9 yards east of shore, 100 yards southeast by east of extreme end of point, and 35 yards northwest of two pine trees. Cement monument marking reference station is 8.26 meters N 25° 00′ E of observed station.

Marks.—Observed station is nail in cedar stub with top flush with the surface of the ground. Reference station is center point of triangle on standard cement monument projecting 4 inches above surface of ground.

References.—	°	′	″		
"War" (S 2° 08′ E)	0	00	00	.....	⅝ mile.
Near peak of house in trees	2	21	..	.....	⅝ mile.
Smoke pipe on wharf house	27	13	..	.....	2⅜ miles.
Tangent of Goose Point	45	55	..	.....	1⅞ miles.
Right peak of Jamaica Point Wharf house	62	29	..	.....	⅝ mile.
Right corner of very wide chimney on brick house	68	42	..	.....	⅞ mile.
Left corner of cupola on roof	115	10	..	.....	1⅛ miles.
Near peak of house	167	00	..	.....	2⅜ miles.
REFERENCE STATION	207	07	20	.....	8.26 meters.
Nail in blaze in pine tree (12 inches diameter)	296	59	10	.....	30.06 meters.
Right pine tree	325	53	20	.....	400 yards.

WAR.

General locality.—Eastern shore of upper Choptank River on southern side of entrance to Warwick River, about ¾ mile east-southeast of Jamaica Point. (See Chart No. 35.)

Immediate locality.—Observed station is on northern side of point of marsh about 1 foot above high water, 45 yards south of shore, 35 yards southeast of shore, 45 yards east of shore, and 35 to 45 yards southwest to west of woods. Cement monument marking reference station is 4.95 meters S 12° 18′ E of observed station.

Marks.—Observed station is nail in center of cedar stub with top flush with surface of ground. Reference station is center point of triangle on standard monument projecting 4 inches above surface of ground.

References.—	°	′	″		
"Gander" (S 11° 26′ W)	0	00	00	.....	¾ mile.
Chimney of house	17	12	..	.....	2 miles.
Smoke pipe on wharf house	23	00	..	.....	1¾ miles.
Left chimney of small house	26	05	..	.....	2 miles.
Square cupola on large house	45	53	..	.....	3¼ miles.
Left peak of house	66	11	..	.....	1⅛ miles.
Right corner of very wide chimney on brick house	96	11	..	.....	1 mile.
Left peak of Jamaica Point Wharf house	105	01	..	.....	⅝ mile.
Chimney of house	132	50	..	.....	1¾ miles.
Near peak of house	157	00	..	.....	2⅜ miles.
Nail in blaze in pin oak tree (10 inches diameter)	186	09	50	.....	42.26 meters.
Nail in blaze in pine tree (11 inches diameter)	212	30	40	.....	41.75 meters.
Nail in blaze in pine tree (12 inches diameter)	245	18	30	.....	31.45 meters.
Nail in blaze in pine tree (12 inches diameter)	267	08	30	.....	30.11 meters.
REFERENCE STATION	336	16	20	.....	4.95 meters.
Chimney of house	353	07	..	.....	1 mile.

GANDER.

General locality.—Southeastern shore of Choptank River ⅜ mile southwest of entrance to Goose Creek about 1⅜ miles east-northeast of Oystershell Point and about 1⅛ miles south-southeast of Jamaica Point. (See Chart No. 35.)

Immediate locality.—Observed station is in an uncultivated field on bank about 6 feet above high water, 19 yards east of edge of bank, 33 yards northeast of edge of bank, 33 yards southeast of edge of bank, and 155 yards west of two large cedar trees at a paling fence.

Marks.—Observed station is center point of triangle on standard cement monument projecting 6 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Chief" (S 9° 44′ W)	0	00	00	⅝ mile.
Chimney of house	28	22	..	1¼ miles.
Smokepipe on wharf house	40	14	..	1⅜ miles.
Chimney of house	50	00	..	4½ miles.
"Cambridge Stand Pipe"	62	46	50	5¾ miles.
Chimney outside of house	113	39	..	1¾ miles.
Right chimney of house	135	48	..	1¼ miles.
Near peak of Jamaica Point Wharf house	147	14	..	1⅛ miles.
Chimney of house	148	54	..	2⅜ miles.
Chimney of house	164	24	..	3¼ miles.
Tangent of point	172	50	..	¾ mile.
Right end of roof of long barn	235	04	..	⅝ mile.
Black walnut tree	282	36	..	200 yards.
Chimney of house	344	59	..	¼ mile.

CHIEF.

General locality.—Southeast shore of Choptank River on a narrow neck of land between Choptank River and Indian Creek, about 1 mile east of Oystershell Point. (See Chart No. 35.)

Immediate locality.—Observed station is on a grass strip between Choptank River and Indian Creek about 2 feet above high water, 15 yards south of river shore, 11 yards north of creek shore, 20 yards southeast of river shore, and 25 yards southwest of river shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″	
"Shell" (S 85° 11′ W)	0	00	00	1 mile.
Smoke pipe on wharf house	0	42	..	¾ mile.
Nail in blaze in locust tree (3 inches diameter)	13	37	10	11.76 meters.
Right corner of railing on house	78	32	..	2 miles.
Near peak of house	91	47	..	3⅝ miles.
Right corner of square chimney	114	47	..	½ mile.
Near corner of barn	144	05	..	¼ mile.
Nail in blaze in cedar tree (6 inches diameter)	167	07	10	22.07 meters.
Stack of cannery	208	56	20	⅜ mile.
Peak of house between two chimneys	253	32	..	¼ mile.
Nail in blaze in cedar tree (8 inches diameter)	348	04	50	13.81 meters.
Near peak of cottage	358	38	..	1 mile.

SHELL.

General locality.—Southeastern shore of Choptank River on Oyster Shell Point about ¾ mile south of Goose Point and 1¼ miles east-northeast of Chancellors Point. (See Chart No. 35.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, 100 yards north of rail fence, 55 yards southwest of shore, 75 yards south of shore, 400 yards west of a wharf, 250 yards west by north of a small house near the shore, 50 yards west by north of corner of fence. Cement monument marking reference station is 2.27 meters N 83° 07′ W of observed station.

Marks.—Observed station is nail in cedar stub flush with surface of ground. Reference station is center point of triangle on standard cement monument projecting 5 inches above the surface of the ground.

References.—	°	′	″		
"Whitehall" (S 41° 55′ W)	0	00	00	.....	⅝ mile.
Lone tree	29	12	..	.....	225 yards.
"Cambridge Standpipe"	35	39	00	.....	4⅛ miles.
Right corner of square cupola	39	24	..	.....	1¼ miles.
REFERENCE STATION	54	57	50	.....	2.27 meters.
Chimney on left end of house	83	10	..	.....	1⅛ miles.
Near peak of large house	150	53	..	.....	1⅞ miles.
Near peak of Jamaica Point Wharf house	158	17	..	.....	1⅞ miles.
Right peak of building	177	29	..	.....	2⅝ miles.
Chimney on house	205	20	..	.....	1¾ miles.
Smoke pipe on wharf house	221	13	..	.....	¼ mile.
Near peak of shed	265	40	..	.....	150 yards.
Near peak of house	280	06	..	.....	300 yards.

WHITEHALL.

General locality.—Southeastern shore of Choptank River about ⅝ mile southwest of Oystershell Point, and 1⅛ miles east of Chancellor Point. (See Chart No. 35.)

Immediate locality.—Observed station is on a marsh point among water bushes about 12 yards south-southeast of shore, 13 yards south-southwest of shore, and 15 yards east-southeast of shore.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Ferry" (S 55° 08′ W)	0	00	00	.....	1¾ miles.
Chimney of house	10	50	..	.....	2¾ miles.
"Cambridge Stand Pipe"	27	22	40	.....	4 miles.
Right of square cupola	46	16	..	.....	1⅛ miles.
Left chimney on long house	99	58	..	.....	1¾ miles.
Chimney outside near end of house	137	20	..	.....	1⅞ miles.
Near peak of large building	144	31	..	.....	2⅜ miles.
Front peak of Jamaica Point Wharf house	150	00	..	.....	2½ miles.

FERRY.

General locality.—Southern shore of Choptank River near east side of entrance to Hurst Creek about 2½ miles east of Cambridge. (See Chart No. 35.)

Immediate locality.—Observed station is on a sand beach about on level with high water, 92 yards east-northeast of Hurst Creek, 1 yard southeast of shore, and 6 to 10 yards northwest to north of several low cedar trees. Cement monument marking reference station is 16.74 meters S 50° 12′ E of observed station.

Marks.—Observed station is nail in pine stub in center of 2-inch tile pipe with top of pipe 6 inches below surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"E. Cambridge Tall Stack" (N 81° 21′ W)	0	00	00	.....	2½ miles.
"Hambrooks Bar Beacon"	24	05	10	.....	3½ miles.
Near peak of large house with cupola	79	37	..	.....	1 mile.
Near peak of barn cupola	99	22	..	.....	2 miles.
Near peak of Jamaica Point Wharf house	116	23	..	.....	3⅝ miles.
Nail in blaze in cedar tree (11 inches diameter)	193	07	00	.....	6.82 meters.
REFERENCE STATION	211	09	00	.....	16.74 meters.
Nail in blaze in cedar tree (8 inches diameter)	242	42	50	.....	8.32 meters.
Nail in blaze in cedar tree (16 inches diameter)	279	49	00	.....	9.76 meters.
Chimney of house	338	10	..	.....	1¾ miles.

SHOAL.

General locality.—Southern shore of Choptank River near entrance to a small creek about 1 mile east-southeast of Cambridge and 1⅝ miles west-southwest of Chancellors Point. (See Chart No. 35.)

Immediate locality.—Observed station is in woods on a point of land about 10 feet above high water, 50 yards east of edge of bank, 6 yards southwest of wire fence at edge of high land, 7 yards south of wire fence, 11 yards west of wire fence, 13 yards west-southwest of large double oak tree, and 90 yards east of a marsh point at a creek. Cement monument marking reference station is 6.08 meters S 23° 44′ W of observed station.

Marks.—Observed station is center of tile pipe with top 6 inches below surface of ground. Reference station is center point of triangle on standard cement monument projecting 5 inches above surface of ground.

References.—

	°	′	″	
"Cambridge" (N 46° 31′ W)	0	00	00	1¾ miles.
Large chimney of house	25	55	..	3⅝ miles.
Spindle on barn cupola	61	31	..	1¾ miles.
Left chimney of house	84	09	..	2 miles.
Near peak of barn with cupola	106	11	..	1¾ miles.
Nail in blaze in large double oak tree	120	03	20	11.31 meters.
Nail in blaze in black walnut tree (8 inches diameter)	205	53	40	10.96 meters.
Nail in blaze in cedar tree (6 inches diameter)	224	26	30	8.05 meters.
REFERENCE STATION	250	15	40	6.08 meters.
Nail in blaze in black walnut tree (17 inches diameter)	304	19	20	3.19 meters.
Flagstaff on boathouse	358	43	..	2½ miles.

E. CAMBRIDGE TALL STACK.

General locality.—Southern shore of Choptank River in the town of Cambridge on the east side of Cambridge Creek. (See Chart No. 35.)

Immediate locality.—Observed station is tall square brick smokestack at plant of Cambridge Manufacturing Co.

Marks.—Observed station is center of stack.

References.—None necessary.

E. CAMBRIDGE SPIRE.

General locality.—Southern shore of Choptank River in town of Cambridge on the east side of Cambridge Creek and the south side of Maryland Avenue. (See Chart No. 35.)

NOTE.—This triangulation landmark was torn down before this publication was prepared and therefore it is not described, although its name and location are shown on Chart No. 35.

CAMBRIDGE STAND PIPE.

General locality.—Southwestern side of Choptank River in the town of Cambridge. (See Chart No. 35.)

Immediate locality.—Observed station is on standpipe on the north side of High Street near Pine Street.

Marks.—Observed station is center of cylindrical water standpipe with ornamental railing on top.

References.—None necessary.

CAMBRIDGE.

General locality.—Southern shore of Choptank River on a point about ¾ mile southeast of Hambrooks Bar Beacon and ½ mile northwest of Cambridge steamer wharf. (See Chart No. 35.)

Immediate locality.—Observed station is on a marsh point about 1 foot above above high water, 30 yards west of shore, 35 yards south of shore at cut, 40 yards southwest of shore, and 3 yards southwest of barbed-wire fence running northwest and southeast.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Command" (N 50° 20′ W)	0	00	00	.....	⅞ mile.
"Hambrooks Bar Beacon"	36	12	00	.....	¾ mile.
Southwest peak of Kirby Wharf house	58	27	..	.....	1¾ miles.
Chimney outside of south end of house	107	00	..	.....	1⅞ miles.
Near one of four chimneys on large square house	133	26	..	.....	2¼ miles.
Right chimney of large house on Chancellors Point	146	27	..	.....	2¾ miles.
Weather vane on hotel	235	36	..	.....	¼ mile.
Chimney of house	328	03	..	.....	¾ mile.
Flagpole	354	09	..	.....	¾ mile.
Flagpole on boathouse	359	24	..	.....	¾ mile.

HAMBROOKS BAR BEACON.

General locality.—Southern side of Choptank River about ¼ mile offshore from point of land known as Hambrooks Bar, about 2 miles southeast of Howells Point, and 1¼ miles northwest of Cambridge. (See Chart No. 35.)

Immediate locality.—Observed station is on a cylindrical foundation known as Hambrooks Bar Beacon.

Marks.—Observed station is center point of lantern on Hambrooks Bar Beacon.

References.—None necessary.

COMMAND.

General locality.—Southern shore of Choptank River about ½ mile west-southwest of Hambrooks Bar Beacon and about 1½ miles northwest of Cambridge Wharf. (See Chart 35.)

Immediate locality.—Observed station is on a marsh point inside of a fence line about 2 feet above high water, 18 yards southeast of shore, 16 yards south of shore, 25 yards southwest of shore, and 150 yards northwest of a boathouse.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″		
"Choptank River Light" (N 49° 40′ W)	0	00	00	.....	6¾ miles.
Nail in blaze in fence post	5	33	30	.....	10.85 meters.
Near peak of large building	16	45	..	.....	2¾ miles.
Nail in blaze in fence post	65	08	20	.....	11.01 meters.
Left chimney of house with three dormer windows	68	28	..	.....	1⅞ miles.
Near peak of Kirby Wharf house	86	40	..	.....	1½ miles.
"Hambrooks Bar Beacon"	121	17	50	.....	¼ mile.
Near peak of large house	153	10	..	.....	3 miles.
Flagstaff on boathouse	183	20	..	.....	150 yards.
"Dicks Water Tank"	266	29	30	.....	⅛ mile.
Nail in blaze in fence post	328	25	40	.....	17.23 meters.
Left chimney of old house	331	53	..	.....	2¾ miles.
"Large Water Tank"	347	03	10	.....	5 miles.

DICKS WATER TANK.

General locality.—Southern shore of Choptank River near Hambrooks Bar about ⅝ mile southwest of Hambrooks Bar Beacon, and ½ mile west of extreme end of Hambrooks Bar. (See Chart No. 35.)

Immediate locality.—Observed station is on water tank.

Marks.—Observed station is spindle on top of water tank.

References.—None necessary.

HOWARD.

General locality.—Southern shore of Choptank River, 2 miles southeast of Horn Point, and about ¼ mile northwest of entrance to Jenkins Creek. (See Chart No. 35.)

Immediate locality.—Observed station is on cultivated land on bluff about 12 feet above high water, 25 yards southwest of edge of bluff, 30 yards south of edge of bluff, 35 yards west of edge of bluff, 45 yards west-northwest of corner of fence dividing field from marsh, and 65 yards northeast of the south one of two small poplar trees in field.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Choptank River Light" (N 36° 14′ W)	0	00	00	.....	6 miles.
Near peak of barn	30	20	..	.....	3¼ miles.
"Black Beacon"	32	16	50	.....	2⅝ miles.
Red Beacon	34	11	30	.....	2⅞ miles.
Near peak of low house in trees	79	52	..	.....	3¼ miles.
Near peak of Kirby Wharf house	90	53	..	.....	3 miles.
"Dicks Water Tank"	109	57	40	.....	1¼ miles.
Left chimney of house	115	00	..	.....	1 mile.
Nail in blaze in locust tree (8 inches diameter)	125	51	50	.....	37.49 meters.
Nail in blaze in locust tree	144	34	50	.....	45.66 meters.
Nail in blaze in locust tree	188	22	40	.....	63.83 meters.
Near peak of barn	245	03	..	.....	¼ mile.
Right peak of house	317	02	..	.....	¼ mile.
Right peak of old house	351	02	..	.....	1½ miles.

TOOT.

General locality.—Southern shore of Choptank River on Horn Point about 1⅝ miles west of Howells Point, and at eastern side of entrance to Lecomptes Bay. (See Chart No. 35.)

Immediate locality.—Observed station is in woods about 7 feet above high water, 15 yards south of shore, 13 yards southwest of shore, and 20 yards west of shore, and near but not on highest point of ground. Cement monument marking reference station is 12.38 meters S 33° 34′ W of observed station.

Marks.—Observed station is nail in center of stub in 2-inch tile pipe projecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument projecting 4 inches above the surface of the ground.

References.—	°	′	″		
"Choptank River Light" (N 34° 15′ W)	0	00	00	.....	4⅛ miles.
East peak of large barn	57	02	..	.....	2¼ miles.
Large chimney of house	68	24	..	.....	2½ miles.
Red Beacon	71	28	00	.....	2 miles.
"Black Beacon"	73	17	30	.....	1⅝ miles.
Near peak of house	88	38	..	.....	2 miles.
Nail in blaze in elm tree	147	42	40	.....	5.48 meters.
Nail in blaze in oak tree (24 inches diameter)	200	47	10	.....	4.70 meters.
Nail in blaze in oak tree (20 inches diameter)	246	58	10	.....	16.89 meters.

References—Continued.	°	′	″		
Reference station	247	49	00	.....	12.38 meters.
Chimney of house	293	21	..	.....	1¼ miles.
Chimney outside of house	331	19	..	.....	1⅝ miles.
"Large Water Tank"	344	41	10	.....	2⅛ miles.
Near corner of boathouse	351	52	..	.....	2⅛ miles.

LE COMPTE.

General locality.—Southern shore of Choptank River on southwestern side of Lecomptes Bay about 1¼ miles west-southwest of Horn Point, ⅝ mile northwest of Travers Wharf, and ¼ mile southwest of mouth of Lecomptes Creek. (See Chart No. 35.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, 18 yards west of point of shore, 14 yards south-southeast of shore, 5 yards east-southeast of turn in shore at beach, 7 yards northeast of a pool, 10 yards northwest of cut in shore, and 115 yards southeast of near one of two large cedar trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Grubin" (W 56° 00′ E)	0	00	00	.....	3⅜ miles.
"Black Beacon"	0	12	10	.....	2⅞ miles.
Barn cupola	9	10	..	.....	
North peak of wharf house	69	02	..	.....	½ mile.
North peak of house	106	43	..	.....	⅜ mile.
Left one of two large cedar trees	248	12	..	.....	117 yards.
Spindle on barn cupola	280	48	..	.....	⅛ mile.
Chimney outside of house	303	44	..	.....	⅝ mile.
Red Beacon	358	07	20	.....	3⅛ miles.

LARGE WATER TANK.

General locality.—Southwestern shore of Choptank River at Castle Haven about 2⅛ miles south of Choptank River Light. (See Chart No. 35.)

Immediate locality.—Observed station is on water tank on high steel tower near barns at Castle Haven.

Marks.—Observed station is center point of windmill on water tank.

References.—None necessary.

CASTLE.

General locality.—Southern shore of Choptank River on Castle Haven Point on north side of Castle Haven Creek about 2 miles south-southwest of Choptank River Light. (See Chart No. 35.)

Immediate locality.—Observed station is on a narrow neck of land, about 25 yards south-southwest of shore of Choptank River, 20 yards north of shore of cove, 22 yards west of bathhouse, and 100 yards east-northeast of three poplar trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Choptank River Light" (N 25° 41′ W)	0	00	00	.....	2 miles.
Right corner of house near Bachelor Point	19	27	..	.....	3 miles.
Left corner of bathhouse	95	31	20	.....	21.42 meters.
Near corner of bathhouse	109	32	20	.....	19.83 meters.
Near peak of house	122	56	..	.....	3 miles.
Right peak of boathouse at Castle Haven Wharf	215	04	..	.....	⅛ mile.
Right corner of chimney of brick house	254	18	..	.....	⅛ mile.

COOK POINT WINDMILL.

General locality.—Eastern shore of Chesapeake Bay on Cook Point between Tripps Bay and Cook Point Cove about 1¼ miles southeast of end of point. (See Charts Nos. 36 and 37.)

Immediate locality.—Observed station is on windmill over smaller and west one of two water tanks west of a barn on Cook Point farm.

Marks.—Observed station is center of windmill over smaller tank.

References.—None necessary.

BRANNOCK.

General locality.—Eastern shore of Chesapeake Bay between Choptank River and Little Choptank River on the southern shore of Brannock Bay about 7 miles southeast of Sharps Island Light. (See Charts Nos. 36 and 37.)

Immediate locality.—Observed station is on high land about 8 feet above high water, 11 yards south of shore, 7 yards south of edge of bluff, 8 yards north of rail fence on far side of county road, 50 yards east of bend where road leaves shore and runs toward farmhouse and 150 yards northeast of a farmhouse.

Marks.—Observed station is center point of triangle on standard cement monument with top projecting about 4 inches above surface of ground. Subsurface mark is 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
Sharps Island Light (N 54° 34′ W)	0	00	00	7 miles.
Near peak of house on Cook Point	38	18	..	3½ miles.
"Cook Point Windmill"	45	33	30	2½ miles.
Right chimney of house in trees	83	15	..	2 miles.
Between two chimneys on large part of house	104	31	..	1 mile.
Outside chimney on near end of house	108	06	..	1 mile.
Center one of three chimneys of house	142	03	..	1 mile.
Tangent of right end of barn roof	150	49	..	1 mile.
Center one of three chimneys on house	163	16	..	¾ mile.
Right peak of house	203	34	..	2 miles.
Left chimney of 1½-story house across creek	210	47	..	2 miles.
Near peak of barn	285	11	..	¾ mile.
Tangent of Mills Point	343	43	..	¾ mile.
Tangent of left end of Sharps Island Hotel	352	12	..	5½ miles.

ROBINS.

General locality.—Eastern shore of Chesapeake Bay on Hills Point at northeast side of entrance to Little Choptank River about 6 miles south-southeast of Sharps Island Light. (See Charts Nos. 36 and 37.)

Immediate locality.—Observed station is in cultivated field about 8 feet above high water, 40 yards northeast by north of edge of bluff, 45 yards east by north of point of bluff, 65 yards south by east of edge of bluff in range with Sharps Island Light, and 140 yards north by west of wire fence at bluff.

Marks.—Observed station is center point of triangle on standard cement monument projecting 4 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Sharps Island Light" (N 34° 11′ W)	0	00	00	6 miles.
Nail in blaze in cedar tree (8 inches diameter)	5	43	20	37.11 meters.
Left chimney of house	76°	25	..	⅛ mile.
Near peak of barn	87	14	..	⅛ mile.
Tallest chimney of house	91	22	..	¾ mile.
Near peak of barn	222	52	..	5¼ miles.
Tangent of end of woods on Taylor Island	229	14	..	5¼ miles.

References—Continued.	°	′	″		
Chimney of house on James Point	247	10	..	.....	3⅛ miles.
Tangent of James Point	248	..	..	.....	3 miles.
Nail in blaze in cedar tree (8 inches diameter)	336	32	30	.....	28.22 meters.
Nail in blaze in cedar tree (8 inches diameter)	353	18	50	.....	30.90 meters.
Tangent of right side of hotel on Sharps Island	356	39	..	.....	4½ miles.

JAMES (LITTLE CHOPTANK RIVER).

General locality.—Eastern side of Chesapeake Bay on northeast end of James Island at south side of entrance to Little Choptank River. (See Charts Nos. 36 and 37.)

Immediate locality.—Observed station is on marsh about 1 foot above high water, 8 yards west of shore, 11 yards northwest of shore, 85 yards south of shore, and 75 yards east of pine woods. Cement monument marking reference station is 19.48 meters S 84° 17′ W of observed station.

Marks.—Observed station is center of 2-inch tile pipe profecting 2 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of surface pipe. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Robins" (N 23° 14′ E)	0	00	00	.....	2¾ miles.
Near peak of house	12	37	..	.....	3½ miles.
Chimney on near end of house	48	42	..	.....	3¼ miles.
Near peak of barn	89	01	..	.....	4¼ miles.
Near chimney of house on Hooper Point	100	36	..	.....	3 miles.
Left peak of long barn	107	05	..	.....	3½ miles.
Near peak of barn	146	09	..	.....	2½ miles.
REFERENCE STATION	241	03	00	.....	19.48 meters.
"Sharps Island Light"	320	02	40	.....	7¾ miles.
Right edge of old hotel on Sharps Island	321	43	..	.....	6¼ miles.
Left tangent of woods on Cook Point	357	29	..	.....	7 miles.

CORNER (Choptank River).

General locality.—Southern shore of Choptank River on east side of entrance to Chapel Creek about 2 miles southeast of Todd Point, and 3 miles south-southwest of Choptank River Light. (See Chart No. 37.)

Immediate locality.—Observed station is on grassy land about 3 feet above high water, 30 yards east of shore, 30 yards south of shore, 35 yards southeast of extreme end of point, and west of small clump of small pine trees.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—	°	′	″		
"Dot" (N 58° 43′ W)	0	00	00	.....	2⅛ miles.
Nail in blaze in holly tree (14 inches diameter)	35	13	40	.....	13.81 meters.
"Choptank River Light"	75	55	20	.....	3 miles.
Nail in blaze in pine tree (4 inches diameter)	105	03	00	.....	3.57 meters.
Right corner of new house	108	42	..	.....	½ mile.
Nail in blaze in pine tree (5 inches diameter)	187	20	10	.....	8.21 meters.
Near peak of 2½-story house	308	25	..	.....	⅞ mile.
Chimney outside right end of house	340	33	..	.....	2 miles.
Chimney outside near end of house	356	46	..	.....	2¾ miles.

DOT.

General locality.—Southern shore of Choptank River on Todd Point about 3 miles east of Cook Point and 3½ miles southwest of Choptank River Light. (See Chart No. 37.)

Immediate locality.—Observed station is about 4 feet above high water, 55 yards west-southwest of shore, 30 yards south-southwest of edge of bank, 40 yards south by east of point where bank meets marsh, 70 yards south by west of extreme end of point, and 200 yards northeast by north of a house.

Marks.—Observed station is center point of triangle on standard cement monument projecting 5 inches above surface of ground. Subsurface mark is center of 2-inch tile pipe buried with top 2 inches below base of monument.

References.—

	°	′	″	
"Choptank River Light" (N 56° 26′ E)	0	00	00	3¼ miles.
"Large Water Tank"	37	36	00	3½ miles.
Near peak of house	42	45	..	2¾ miles.
Near peak of building	72	49	..	2¼ miles.
Chimney outside right end of house	102	18	..	1⅜ miles.
Chimney outside near end of house	175	25	..	200 yards.
Left chimney of house on Cook Point	212	24	..	2¾ miles.
"Sharps Island Light"	218	32	40	7½ miles.
Church spire	250	04	40	7¼ miles.
Left peak of house	277	10	..	7¼ miles.
Near peak of barn	290	09	..	7½ miles.
Cupola on house	333	02	..	3⅝ miles.

BOUNDARIES OF OYSTER BARS.

EXPLANATION.

The law of the United States authorizing the cooperation of the Department of Commerce and Labor in the survey of natural oyster bars of Maryland provides for the designation and employment by the Department of Commerce and Labor of such officers, experts, and other technically qualified persons "as may be necessary to cooperate with the Maryland State Board of Shell Fish Commissioners in making a survey of and locating the natural oyster beds, bars, and rocks in the waters within the State of Maryland." The oyster laws of Maryland provide that the Maryland Shell Fish Commissioners, with the aid of such persons as may be designated by the Government, shall proceed "to have laid out, surveyed, and designated on the said charts the natural beds and bars, and shall cause to be marked and defined as accurately as practicable the limits and boundaries of the natural beds, bars, and rocks as established by said survey, and they shall take true and accurate notes of said survey in writing, and make an accurate report of said survey, setting forth such a description of landmarks as may be necessary to enable the said board, or their successors, to find and ascertain the boundary lines of the said natural oyster beds, bars, and rocks, as shown by a delineation on the maps and charts." The oyster laws of Maryland also provide in another section that there shall "be made a true and accurate survey of the natural oyster beds, bars, and rocks * * * with reference to fixed and permanent objects on the shore, giving courses and distances, to be fully described and set out in a written report of said survey."

Under the provisions of the laws quoted above the State of Maryland, in cooperation with the Department of Commerce and Labor, must define the boundaries of the natural oyster bars "as accurately as practicable" and also "with reference to fixed and permanent objects on the shore, giving courses and distances." The requirement of "as accurately as practicable" is easily fulfilled by definition of the location of the corners of the oyster bars by latitude and longitude. In fact, this method is probably the most satisfactory and accurate one that could be used for all purposes of legal definition or for relocation of the oyster-bar boundaries by competent engineers. Therefore the additional requirement of "giving courses and distances" is superfluous and is only fulfilled in the published definitions on account of the specific provisions of the law making it compulsory. This part of the description of boundaries has involved an immense amount of extra computations in order to prevent technical discrepancies between the latitude and longitude of a corner of an oyster bar and its distance and bearing from objects on shore of known latitude and longitude without adding anything to the accuracy and very little to the convenience of practical use of the descriptions of the oyster-bar boundaries.

As provided by law the boundaries of the oyster bars are all straight lines, but in the work already completed they have inclosed areas of all shapes from triangles to complicated 14-sided figures, and of all sizes from 4 acres to 7,548 acres. The sides have varied in length from 93 to 7,529 yards, and in some cases the corners of the boundaries have been practically at the triangulation stations from which they are located, while in other instances they were over 13,600 yards from the landmarks most available for the purpose of fixing their position.

The varied characteristics of the legal boundaries of the oyster bars indicated by the above statement, together with the complicated requirements of the law under which the survey has been made, and the magnitude of the work with the consequent need of fixed and uniform methods, have made the problem of describing the boundaries one of considerable difficulty and great importance.

The boundaries of the oyster bars of Maryland, as established by the Shell Fish Commission and delineated on the Coast and Geodetic Survey charts and projections and on the leasing charts of the Commission, are technically defined and described by a method somewhat different from that used in other oyster surveys. But it is believed that the forms finally adopted will fulfill all needs of the survey for both the present and the future.

METHOD OF DESCRIBING BOUNDARIES.

The descriptions have been arranged in tabular form, thus avoiding many hundred repetitions of the same words by making one explanation of the tables sufficient for all oyster bars in each county.

Title.—At the top of each tabular form is given the legal name of the oyster bar to be described, and the one by which it is known and designated in the published oyster records and on the oyster charts. The adopted name of the oyster bar is the one used locally, as nearly as could be ascertained by the hydrographic engineer of the Commission; and when there was no local name in common use a name was selected from one of the prominent features of the vicinity that would naturally suggest the section of the waters where the oyster bar was located.

Underneath the name, in parentheses, is given the general locality of the oyster bar and the serial number of the "Maryland Oyster Chart" on which its legal boundaries are shown.[1]

First column.—This column, under the heading of "Corner of bar," gives the number corresponding to the corner of the boundary as shown on the charts and to the number on the buoy marking the actual corner of the bar. The numbers of the corners have been assigned by naming the southernmost point No. 1, thence proceeding in a clockwise direction around the bar. Where a corner of one oyster bar is identical with the corner of the boundaries of one or more other oyster bars, only the number of the corner of the oyster bar being described in the table is given in this column.

Second and third columns.—These two columns, under the headings of "Latitude" and "Longitude," give the geographic positions of the corners. These positions have been adopted by the Commission as the primary technical definition of the location of

[1] These charts can be obtained by application to the Superintendent of the Coast and Geodetic Survey, at Washington, D.C.

the corners, and should be considered as final in case of a dispute arising from discrepancies caused by other means of location. The latitudes and longitudes given in these columns are based on the United States standard datum of the Coast and Geodetic Survey, and the points thus defined can be relocated from distant triangulation stations of the survey, even though all the landmarks and buoys originally used for their location have been destroyed by natural or other causes.

Fourth and fifth columns.—These two columns, under the general heading of "True bearing" [1] and the specific headings "Forward" and "Back," give bearings measured from a true north-and-south line. The three "Forward" bearings are from the corner of the boundary designated in the first column to the triangulation stations named on the corresponding lines in the last column, and the three "Back" bearings are from these same stations in the last column to the corresponding corner of boundary in the first column. The difference in minutes of arc between the forward and back bearings shown in some cases is actual and not accidental, and is due to the fact that the computations took into account the spheroidal shape of the earth.

Sixth column.—This column, under the heading of "Distance," gives the three computed distances in yards from the corner of the bar noted in the first column to the three triangulation stations named on the corresponding lines in the last column, and vice versa.

Seventh column.—This column, under the heading of "U. S. C. & G. S. triangulation station," [2] gives the names of the landmarks from which were computed the corresponding "Latitude," "Longitude," "True bearing" and "Distance" of the "Corner of bar" designated in the first column. A full description of the location and markings of these triangulation stations is given in another part of this publication under the heading of "Descriptions of triangulation stations."

SURVEYING METHODS FOR RELOCATION OF BOUNDARIES.

There are a number of methods that can be used in the relocation of the actual boundaries of the natural oyster bars as technically described in this publication and delineated on the published charts of the Coast and Geodetic Survey and the leasing charts of the Shell Fish Commission.

The following brief descriptions of five of these more or less different methods assume a certain amount of experience and knowledge on the part of the engineer in the particular kind of surveying under consideration, and are only intended as reminders of ways and means that can be used.

There are two problems that are likely to present themselves to those interested in the boundaries of natural oyster bars: one, to determine whether the buoys marking the corners have been dragged or otherwise moved from their correct positions, and the other, to relocate or reestablish a buoy at the point from which it was removed. The different ways of solving these two problems partly depend upon the instruments possessed by the engineer and his assistants and partly on his training and experience.

[1] The mean magnetic variation for Talbot County was 6° 10′ west of north in 1911 and increasing at the rate of 5′ yearly.

[2] Geographic positions of these triangulation stations can be obtained by application to the Superintendent of the Coast and Geodetic Survey, Washington, D. C.

(1) *Triangulation.*—This method is the one that will give the greatest accuracy, but on account of its requiring special data and instruments, and being an operation rarely used by engineers not engaged in geodetic surveying, it is recommended only for cases in dispute that can not be settled satisfactorily by some other method. An explanation of this class of work would be too long for a report of this sort, and those not familiar with this method are referred to the publications on the subject by the Coast and Geodetic Survey.

(2) *Hydrographic.*—This method is the most simple and satisfactory one that can be adopted if the surveyor can obtain the use of the necessary instruments and assistants. It is the one best suited for the work of the engineers of the Commission in relocating corners of boundaries, as it gives results of the accuracy ordinarily required and is rapid in execution. Besides, it has the advantage of being available whenever three triangulation stations of suitable relative positions are visible from the offshore points needing relocation.

Most navigators and others familiar with the use of a sextant are well acquainted with the graphic three-point method of fixing a position on water, and only a brief description of the operation will be stated.

In the case where there is only one engineer having a single sextant, the three-point method can be used if the two angles determining the position of a buoy are first derived from the "Forward" bearings given in the tabular forms describing the boundaries of the oyster bars. For example, take "Poplar Island" oyster bar, which is the first one described in this publication, and assume that "Corner No. 3," is to be examined as to its position. The angle between the two landmarks "Valliant" and "Haddaway," as determined from right to left from the forward bearings from this corner, is 58° 17′, and the angle between "Haddaway" and "Bloody Point Bar Light" is 120° 05′. Having these two angles, the engineer proceeds to the buoy of doubtful location and measures the actual sextant angles between the landmarks for which the calculations were made. If the measured and calculated angles do not agree, the buoy is not in its correct position and the boundary corner must be relocated. This is accomplished by moving the boat about until a point is reached where the angles do agree, and this point being the desired location, the buoy can be placed in its correct position.

If the engineer can obtain the use of both a sextant and a three-arm protractor (position finder), the availability of the hydrographic method is increased, as the use of the protractor is essential in case of the washing away or destruction of one or more of the landmarks originally used in describing the boundaries. Under these circumstances any three landmarks of suitable relative position that are visible from the point to be located can be utilized. For example, the engineer can proceed to the buoy of doubtful position and measure the two adjacent sextant angles between the three landmarks selected. These two angles are set off on the three-arm protractor and the actual position of the buoy plotted on the chart by shifting the protractor about until the edge of each of the three arms passes through the center of the symbols on the chart marking the position of the three landmarks selected. The center of the hub of the protractor will indicate on the chart the actual position of the buoy, and if the point thus obtained does not coincide with the true position of the corner of the boundary as given on the chart, the surveyor can proceed to locate the buoy correctly by reversing the operation.

This is done by placing the center point of the hub of the protractor over the corner of the boundary in question and measuring on the chart the two adjacent protractor angles between the three selected landmarks. One of the angles thus obtained is set on the sextant and the boat moved about until the two landmarks are shown by the sextant to subtend the same angle obtained from the protractor. The second angle is then placed on the sextant and the same operation gone through, and so on, first using one angle on the sextant, then the other, until a point is reached where both observed sextant angles are practically identical with the protractor angles. The point thus located is the desired one and the buoy can be placed to mark the true position of the corner of the boundary in question.

If the engineer possesses two sextants and a protractor, this problem is far easier of solution, as the two angles can be set off on separate sextants and the observer can quickly find the desired point where they agree with the protractor angles by using one sextant after the other without the need of resetting either.

If there are two observers, two sextants, and a protractor, it can be seen that the best conditions for both rapid and accurate hydrographic location of a point is attained. In fact, this is the method by which the buoys at the corners of the boundaries were originally placed by the hydrographic engineer to the Commission.

(3) *Magnetic bearings from offshore.*—This method of fixing a position on water is a simple and well-known one in navigation. It is available to anyone having a boat compass and will be of special use to the State Fishery Force in investigating cases where buoys are supposed to have been moved for illegal purposes.

In the case where a buoy is supposed to have been moved from its true position the observer can take compass bearings to the three landmarks given in the last column of the tables opposite the boundary corner in question. These bearings are then corrected for the local declination,[1] and if the results agree with the published bearings the buoy is correctly located.

In the case where the buoy is not in its correct position, or has disappeared altogether, the desired point can be determined by maneuvering the vessel until the corrected bearings agree with the ones in the tabular descriptions, when the buoy can be anchored in its proper location.

In the case where the landmarks for which the bearings are published have been destroyed or washed away, any landmarks whose positions are indicated on the charts can be used. This can be done by getting their bearings directly from the chart by parallel rulers or a protractor and then applying these new bearings in the same manner as the ones published in the tables.

(4) *Magnetic bearings from shore.*—This method will be of special value to engineers having an ordinary surveyor's compass. The compass can be set over the point marking a "triangulation station" on shore, the name of which is given in the last column opposite the "corner" in question. The instrument is then set at the corresponding "back" bearing (corrected for local magnetic declination) given in the fifth column of the tables opposite the "corner" in question. The direction thus determined will give one range on which the desired point must be located. The compass can then be moved to a

[1] The mean magnetic variation for Talbot County is 6° 10′ west of north in 1911 and increasing at the rate of 5′ yearly.

second triangulation station and another range located in a similar manner. The intersection of these two range lines will give the desired point; but in general it should be checked by an additional range line determined from a third station.

(5) *Horizontal angles measured at landmarks.*—This process is a modification of the triangulation method, and will be useful to engineers who have a transit and desire considerable accuracy.

The instrument is placed over a "triangulation station," the name of which appears in the last column of the tabular description opposite the "corner" in question. The telescope is then pointed to the landmark indicated in the "Descriptions of landmarks" as having a direction of 0° 00′ 00″ from the triangulation station being occupied by the transit. The tabular description of the boundaries is next examined and the "back" bearing of the questionable boundary "corner" from the landmark being occupied is taken out. The angle calculated from this "back" bearing and the bearing given in parentheses alongside the zero landmark in the "Descriptions of landmarks" is then set off on the transit and a range line established on which the desired point must be located. A similar process is then carried on at a second station, and so on until the position of the buoy is satisfactorily fixed.

BOUNDARIES OF NATURAL OYSTER BARS.

POPLAR ISLAND.

(Chesapeake Bay—Off Poplar Island—Charts Nos. 31 and 33.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 45 43.52	76 23 47.66	S 62 30 E	N 62 29 W	1,902	Poplar South.
			N 47 03 E	S 47 03 W	1,510	Valliant.
			N 2 53 E	S 2 53 W	8,697	Bloody Point Bar Light.
2	38 45 53.47	76 24 19.45	S 64 20 E	N 64 19 W	2,801	Poplar South.
			N 70 22 E	S 70 23 W	2,065	Valliant.
			N 8 41 E	S 8 42 W	8,448	Bloody Point Bar Light.
3	38 47 45.44	76 23 17.97	S 5 57 E	N 5 57 W	3,099	Valliant.
			S 64 14 E	N 64 12 W	5,587	Haddaway.
			N 4 19 W	S 4 19 E	4,589	Bloody Point Bar Light.
4	38 47 32.65	76 22 13.67	S 26 26 E	N 26 26 W	5,807	Great.
			S 59 04 E	N 59 04 W	3,888	Haddaway.
			N 22 11 W	S 22 12 E	5,408	Bloody Point Bar Light.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

LOWS POINT.

(Eastern Bay—Charts Nos. 31 and 33.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 47 09.33	76 21 17.76	S 14 20 E	N 14 20 W	4,639	Great.
			S 56 52 E	N 56 52 W	2,219	Haddaway.
			N 46 41 E	S 46 43 W	7,455	Kemp Tower.
2	38 47 41.86	76 21 16.85	S 38 27 E	N 38 27 W	2,949	Haddaway.
			N 53 15 E	S 53 16 W	6,332	Kemp.
			N 37 00 W	S 37 02 E	5,882	Bloody Point Bar Light.
3	38 48 26.00	76 19 35.90	N 46 20 E	S 46 21 W	3,331	Kemp.
			N 62 38 W	S 62 41 E	6,984	Bloody Point Bar Light.
			S 12 20 W	N 12 20 E	3,888	Haddaway.
4	38 48 07.05	76 18 50.23	N 19 02 W	S 19 03 E	6,979	Straight.
			N 62 32 W	S 62 35 E	8,349	Bloody Point Bar Light.
			S 32 48 W	N 32 47 E	3,759	Haddaway
5	38 47 16.80	76 20 36.40	S 27 37 E	N 27 37 W	1,654	Haddaway.
			N 41 42 E	S 41 44 W	6,497	Kemp Tower.
			N 30 44 W	S 30 40 E	7,802	Bloody Point Bar Light.

MARYS DELIGHT.

(Eastern Bay—Chart No. 31.)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 48 54.24	76 19 00.67	N 47 42 E	S 47 43 W	2,001	Kemp.
			N 72 26 W	S 72 29 E	7,481	Bloody Point Bar Light.
			S 20 20 W	N 20 19 E	5,067	Haddaway.
2	38 49 01.93	76 19 31.72	N 64 42 E	S 64 42 W	2,544	Kemp.
			N 72 26 W	S 72 28 E	6,622	Bloody Point Bar Light.
			S 10 38 W	N 10 38 E	5,097	Haddaway.
3	38 49 32.84	76 19 33.63	N 81 19 W	S 81 22 E	6,335	Bloody Point Bar Light.
			S 8 22 W	N 8 22 E	6,118	Haddaway.
			N 88 54 E	S 88 54 W	2,351	Kemp.
4	38 49 05.28	76 18 55.67	N 54 08 E	S 54 09 W	1,664	Kemp.
			N 75 27 W	S 75 29 E	7,505	Bloody Point Bar Light.
			S 20 17 W	N 20 16 E	5,461	Haddaway.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

WADES POINT.

(*Eastern Bay—Chart No. 31.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 50 03.28	76 18 29.62	S 52 41 E	N 52 41 W	1,242	Kemp Tower.
			N 70 04 E	S 70 06 W	3,836	Rich Neck Water Tank.
			N 46 27 W	S 46 26 E	3,890	Straight.
2	38 50 15.25	76 18 55.22	S 55 11 E	N 55 10 W	2,026	Kemp Tower.
			N 78 06 E	S 78 06 W	4,375	Rich Neck Water Tank.
			N 43 18 W	S 43 19 E	3,127	Straight.
3	38 50 53.78	76 18 28.07	N 71 10 W	S 71 11 E	3,023	Straight.
			S 21 06 E	N 21 05 W	2,632	Kemp Tower.
			S 83 39 E	N 83 38 W	3,587	Rich Neck Water Tank.
4	38 50 23.54	76 17 59.43	N 61 05 W	S 61 07 E	4,129	Straight.
			S 7 37 E	N 7 37 W	1,449	Kemp Tower.
			N 77 29 E	S 77 31 W	2,878	Rich Neck Water Tank.
5	38 50 06.52	76 18 12.44	S 31 49 E	N 31 49 W	1,015	Kemp Tower.
			N 69 13 E	S 69 13 W	3,373	Rich Neck Water Tank.
			N 51 51 W	S 51 52 E	4,161	Straight.

SEDGE MARSH.

(*Eastern Bay—Chart No. 31.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 50 45.88	76 17 35.05	N 73 43 W	S 73 45 E	4,436	Straight.
			S 11 38 W	N 11 38 E	2,235	Kemp Tower.
			S 86 34 E	N 86 33 W	2,166	Rich Neck Water Tank.
2	38 50 50.10	76 17 51.70	N 73 55 W	S 73 57 E	3,975	Straight.
			S 0 18 W	N 0 18 E	2,332	Kemp Tower.
			S 84 02 E	N 84 01 W	2,615	Rich Neck Water Tank.
3	38 51 09.90	76 17 29.38	N 84 23 W	S 84 25 E	4,429	Straight.
			S 11 19 W	N 11 19 E	3,059	Kemp Tower.
			S 65 01 E	N 65 01 W	2,225	Rich Neck Water Tank.
4	38 51 04.26	76 17 20.17	N 82 22 W	S 82 23 E	4,693	Straight.
			S 16 43 W	N 16 42 E	2,934	Kemp Tower.
			S 67 06 E	N 67 04 W	1,927	Rich Neck Water Tank.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

RICH NECK.

(*Eastern Bay—Chart No. 31.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 51 32.93	76 17 03.04	N 71 12 W	S 71 14 E	4,844	Mouth.
			S 18 56 W	N 18 55 E	3,993	Kemp Tower.
			S 37 38 E	N 37 38 W	2,166	Rich Neck Water Tank.
2	38 51 59.14	76 17 42.52	N 79 11 W	S 79 12 E	3,609	Mouth.
			S 3 07 W	N 3 07 E	4,667	Kemp Tower.
			S 67 31 E	N 67 30 W	3,445	Dixon.
	Thence along county boundary as delineated on Chart No. 31 to corner No. 3.					
3	38 52 11.20	76 17 26.07	N 86 08 W	S 86 10 E	3,987	Mouth.
			S 7 44 W	N 7 44 E	5,114	Kemp Tower.
			S 57 54 E	N 57 55 W	3,246	Dixon.
4	38 51 46.33	76 16 48.83	N 77 24 W	S 77 26 E	5,083	Mouth.
			S 21 33 W	N 21 32 E	4,546	Kemp Tower.
			S 23 38 E	N 23 38 W	2,367	Rich Neck Water Tank.

TILGHMANS POINT.

(*Eastern Bay—Charts Nos. 31 and 32.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 51 30.20	76 16 15.27	S 34 45 W	N 34 44 E	4,484	Kemp Tower.
			S 2 14 E	N 2 14 W	1,625	Rich Neck Water Tank.
			S 68 50 E	N 68 49 W	947	Dixon.
2	38 51 45.94	76 16 26.10	S 28 18 W	N 28 17 E	4,788	Kemp Tower.
			S 9 12 E	N 9 12 W	2,183	Rich Neck Water Tank.
			S 53 15 E	N 53 14 W	1,459	Dixon.
3	38 52 12.40	76 15 41.00	N 14 45 E	S 14 46 W	4,898	Parsons Island Water Tank.
			N 30 40 W	S 30 41 E	3,653	Needle.
			S 15 25 W	N 15 25 E	3,161	Rich Neck Water Tank.
4	38 52 39.22	76 15 25.84	N 11 52 E	S 11 52 W	3,693	Parsons.
			N 45 19 W	S 45 20 E	3,181	Needle.
			S 8 57 W	N 8 57 E	2,702	Dixon.
5	38 52 31.74	76 15 11.38	N 5 35 E	S 5 35 W	3,884	Parsons.
			N 46 43 W	S 46 44 E	3,631	Needle.
			S 18 21 W	N 18 21 E	2,547	Dixon.
6	38 52 11.48	76 15 19.40	N 7 23 E	S 7 23 W	4,588	Parsons.
			N 37 28 W	S 37 29 E	3,997	Needle.
			S 18 48 W	N 18 48 E	1,832	Dixon.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

UPPER HARRIS CREEK.

(*Harris Creek—Charts Nos. 31, 32, and 34.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 46 20.52	76 16 36.33	N 6 14 W	S 6 14 E	622	Mink.
			N 49 45 W	S 49 46 E	478	Grace.
			S 81 33 W	N 81 34 E	478	Koot.
2	38 46 21.22	76 16 56.08	N 28 49 E	S 28 50 W	326	Grace.
			N 59 05 W	S 59 05 E	419	Rabbit.
			S 60 13 W	N 60 13 E	536	Fox.
3	38 46 25.20	76 16 56.02	S 49 22 W	N 49 22 E	615	Fox.
			S 11 43 E	N 11 43 W	233	Koot.
			N 89 03 E	S 89 03 W	773	Bozman.
4	38 46 40.40	76 16 34.90	S 34 34 W	N 34 34 E	900	Koot.
			S 23 21 E	N 23 21 W	545	Bozman.
			N 64 51 E	S 64 52 W	568	Pink.
5	38 46 45.96	76 16 34.38	S 16 26 E	N 16 26 W	716	Bozman.
			N 83 53 E	S 83 53 W	503	Pink.
			N 25 52 E	S 25 52 W	711	Clump.
6	38 47 08.22	76 16 17.43	S 4 19 E	N 4 19 W	699	Pink.
			S 71 55 E	N 71 55 W	414	Miller.
			N 46 04 E	S 46 05 W	423	Otto.
7	38 47 35.76	76 16 22.00	N 83 08 W	S 83 08 E	245	End.
			S 1 51 W	N 1 51 E	692	Lawn.
			S 78 00 E	N 78 00 W	441	Rod.
8	38 47 34.78	76 16 09.12	N 83 54 W	S 83 54 E	586	End.
			S 28 49 W	N 28 49 E	752	Lawn.
			S 8 03 E	N 8 03 W	608	Otto.
9	38 47 03.04	76 16 08.03	N 43 32 W	S 43 32 E	568	Lawn.
			N 80 40 W	S 80 40 E	392	Clump.
			S 20 32 W	N 20 32 E	558	Pink.

UPPER HILL.

(*Eastern Bay—Chart No. 32.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 51 52.53	76 15 12.90	N 4 36 E	S 4 37 W	5,206	Parsons.
			N 34 20 W	S 34 21 E	4,616	Needle.
			S 34 50 W	N 34 49 E	1,334	Dixon.
2	38 52 03.54	76 15 17.66	N 6 26 E	S 6 27 W	4,848	Parsons.
			N 35 46 W	S 35 47 E	4,240	Needle.
			S 23 28 W	N 23 27 E	1,599	Dixon.
3	38 52 05.52	76 15 10.08	N 4 08 E	S 4 09 W	4,763	Parsons.
			N 38 26 W	S 38 26 E	4,308	Needle.
			S 28 37 W	N 28 36 E	1,747	Dixon.
4	38 51 54.60	76 15 05.40	N 2 28 E	S 2 28 W	5,124	Parsons.
			N 36 49 W	S 36 50 E	4,674	Needle.
			S 39 29 W	N 39 29 E	1,509	Dixon.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

ALDRIDGES DISCOVERY.

(*Miles River—Chart No. 32.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 51 31.38	76 14 40.48	S 74 32 W	N 74 31 E	1,432	Dixon.
			S 4 16 W	N 4 16 E	3,503	Seth.
			S 22 19 E	N 22 18 W	5,019	Sara.
2	38 51 43.26	76 14 40.48	S 64 11 W	N 64 10 E	1,796	Dixon.
			S 7 17 W	N 7 17 E	3,925	Seth.
			S 18 18 E	N 18 18 W	5,313	Sara.
3	38 51 33.94	76 14 32.18	S 75 42 W	N 75 42 E	1,894	Dixon.
			S 11 20 W	N 11 19 E	3,650	Seth.
			S 17 02 E	N 17 02 W	4,946	Sara.

HORSESHOE.

(*Miles River—Chart No. 32.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 51 30.28	76 14 25.02	S 87 39 W	N 87 39 E	1,019	Pearson.
			S 14 41 W	N 14 41 E	3,573	Seth.
			S 15 18 E	N 15 18 W	4,776	Sara.
2	38 51 38.50	76 14 25.80	S 72 16 W	N 72 16 E	1,048	Pearson.
			S 13 21 W	N 13 20 E	3,836	Seth.
			S 14 42 E	N 14 42 W	5,049	Sara.
3	38 51 39.40	76 14 08.86	S 76 24 W	N 76 24 E	1,486	Pearson.
			S 19 30 W	N 19 29 E	3,992	Seth.
			S 9 38 E	N 9 38 W	4,985	Sara.
4	38 51 31.18	76 14 08.08	S 87 11 W	N 87 10 E	1,467	Pearson.
			S 21 13 W	N 21 12 E	3,739	Seth.
			S 9 57 E	N 9 57 W	4,707	Sara.

TURTLE BACK.

(*Miles River—Chart No. 32.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 50 55.28	76 14 15.54	N 48 05 W	S 48 06 E	1,705	Pearson.
			S 26 56 W	N 26 55 E	2,552	Seth.
			S 16 26 E	N 16 26 W	3,572	Sara.
2	38 50 56.28	76 14 22.26	N 44 39 W	S 44 39 E	1,553	Pearson.
			S 22 58 W	N 22 58 E	2,508	Seth.
			S 18 57 E	N 18 57 W	3,657	Sara.
3	38 51 16.84	76 14 13.96	N 72 34 W	S 72 34 E	1,374	Pearson.
			S 21 45 W	N 21 44 E	3,233	Seth.
			S 13 08 E	N 13 08 W	4,265	Sara.
4	38 51 11.18	76 13 58.00	N 70 49 W	S 70 49 E	1,833	Pearson.
			S 29 56 W	N 29 55 E	3,244	Seth.
			S 7 52 E	N 7 52 W	3,999	Sara.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

SEA TURTLE.

(*Miles River—Chart No. 32.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 51 02.58	76 15 23.66	N 30 37 E	S 30 37 W	1,037	Pearson.
			N 39 03 W	S 39 03 E	759	Dixon.
			S 61 55 W	N 61 54 E	1,471	Rich Neck Water Tank.
2	38 51 07.98	76 15 26.28	N 40 03 W	S 40 03 E	927	Pearson.
			N 45 07 W	S 45 07 E	577	Dixon.
			S 54 33 W	N 54 33 E	1,508	Rich Neck Water Tank.
3	38 51 13.84	76 15 06.67	N 8 52 E	S 8 52 W	519	Pearson.
			N 77 14 W	S 77 15 E	949	Dixon.
			S 58 27 W	N 58 26 E	2,048	Rich Neck Water Tank.
4	38 51 08.58	76 15 03.15	N 1 04 W	S 1 04 E	690	Pearson.
			N 69 12 W	S 69 12 E	1,089	Dixon.
			S 64 03 W	N 64 03 E	2,045	Rich Neck Water Tank.

BOZMAN NECK.

(*Miles River—Chart No. 32.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 50 31.80	76 15 13.30	N 7 31 E	S 7 31 W	1,947	Pearson.
			N 24 47 W	S 24 47 E	1,792	Dixon.
			N 77 36 W	S 77 37 E	1,609	Rich Neck Water Tank.
2	38 50 47.10	76 15 33.18	N 28 51 E	S 28 51 W	1,615	Pearson.
			N 11 33 W	S 11 33 E	1,135	Dixon.
			S 80 44 W	N 80 44 E	1,061	Rich Neck Water Tank.
3	38 50 53.96	76 15 23.76	N 24 09 E	S 24 09 W	1,296	Pearson.
			N 28 23 W	S 28 23 E	1,001	Dixon.
			S 72 45 W	N 72 45 E	1,356	Rich Neck Water Tank.
4	38 50 44.02	76 15 10.12	N 6 25 E	S 6 25 W	1,528	Pearson.
			N 34 30 W	S 34 30 E	1,474	Dixon.
			S 87 41 W	N 87 41 E	1,656	Rich Neck Water Tank.
5	38 50 35.58	76 15 06.92	N 2 45 E	S 2 45 W	1,804	Pearson.
			N 31 31 W	S 31 31 E	1,760	Dixon.
			N 82 51 W	S 82 52 E	1,753	Rich Neck Water Tank.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

HAMBLETON HILL.

(*Miles River—Chart No. 32.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 49 54.92	76 14 28.06	N 16 28 W	S 16 28 E	3,309	Pearson.
			S 73 50 W	N 73 49 E	860	Seth.
			N 80 53 E	S 80 54 W	2,579	Herr.
2	38 50 10.40	76 14 47.90	N 8 54 W	S 8 54 E	2,685	Pearson.
			S 21 39 W	N 21 39 E	819	Seth.
			S 87 53 E	N 87 52 W	3,071	Herr.
3	38 50 40.48	76 14 09.46	N 41 06 W	S 41 07 E	2,173	Pearson.
			S 36 33 W	N 36 32 E	2,210	Seth.
			S 61 14 E	N 61 14 W	2,345	Herr.
4	38 50 44.92	76 13 48.08	N 53 15 W	S 53 15 E	2,487	Pearson.
			S 44 19 W	N 44 18 E	2,691	Seth.
			S 49 24 E	N 49 24 W	1,964	Herr.
5	38 50 31.34	76 13 45.54	N 46 37 W	S 46 38 E	2,834	Pearson.
			S 53 00 W	N 52 59 E	2,439	Seth.
			S 60 04 E	N 60 03 W	1,644	Herr.
6	38 50 15.46	76 14 13.72	N 27 57 W	S 27 57 E	2,808	Pearson.
			S 52 15 W	N 52 14 E	1,522	Seth.
			S 82 32 E	N 82 31 W	2,186	Herr.

WEST END.

(*Miles River—Chart No. 32.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 49 43.94	76 12 45.04	N 51 08 E	S 51 08 W	1,903	Wood.
			N 12 25 W	S 12 25 E	797	Herr.
			S 53 28 W	N 53 27 E	1,714	Sara.
2	38 49 57.00	76 13 59.42	S 78 55 W	N 78 54 E	1,611	Seth.
			S 21 51 E	N 21 50 W	1,574	Sara.
			N 79 18 E	S 79 19 W	1,822	Herr.
3	38 50 36.08	76 13 06.98	S 61 14 W	N 61 13 E	3,381	Seth.
			S 22 34 E	N 22 34 W	1,061	Herr.
			S 87 50 E	N 87 50 W	1,949	Frank.
4	38 50 07.02	76 12 51.54	N 59 31 E	S 59 32 W	1,787	Frank.
			N 20 33 E	S 20 33 W	2,270	Benn.
			S 79 08 W	N 79 07 E	3,433	Seth.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

HAMBLETON.

(*Miles River—Chart No. 32.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 49 23.80	76 14 15.36	S 71 17 E	N 71 16 W	1,062	Sara.
			N 56 36 E	S 56 37 W	2,649	Herr.
			N 55 06 W	S 55 06 E	1,415	Seth.
2	38 49 28.52	76 14 39.72	S 73 07 E	N 73 07 W	1,722	Sara.
			N 65 32 E	S 65 33 W	3,135	Herr.
			N 38 32 W	S 38 32 E	832	Seth.
3	38 49 38.20	76 14 40.12	S 63 31 E	N 63 31 W	1,854	Sara.
			N 71 16 E	S 71 17 W	3,024	Herr.
			N 57 26 W	S 57 27 E	601	Seth.
4	38 49 37.82	76 13 13.44	N 30 24 E	S 30 24 W	1,142	Herr.
			N 83 08 W	S 83 09 E	2,815	Seth.
			S 37 39 W	N 37 38 E	1,028	Sara.
5	38 49 32.02	76 13 09.72	S 49 35 W	N 49 34 E	954	Sara.
			S 10 19 E	N 10 19 W	1,965	Spar.
			N 22 07 E	S 22 07 W	1,274	Herr.

TIDEMILL.

(*Miles River—Chart No. 32.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 48 37.48	76 13 02.90	S 61 09 E	N 61 09 W	197	Spar.
			N 5 40 E	S 5 40 W	3,035	Herr.
			N 36 34 W	S 36 34 E	1,520	Sara.
	Thence from corner No. 1 along the mean low-water line of the shore to corner No. 2, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
2	38 49 14.48	76 13 35.54	N 63 03 W	S 63 04 E	2,480	Seth.
			S 59 08 W	N 59 08 E	51	Sara.
			S 37 35 E	N 37 35 W	1,694	Spar.
3	38 49 18.46	76 13 41.28	S 33 36 E	N 33 36 W	194	Sara.
			N 38 42 E	S 38 43 W	2,099	Herr.
			N 64 20 W	S 64 20 E	2,286	Seth.
	Thence from corner No. 3 along the mean low-water line of the shore to corner No. 4, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
4	38 49 14.74	76 14 14.88	S 87 57 E	N 87 57 W	994	Sara.
			N 51 16 E	S 51 17 W	2,818	Herr.
			N 46 27 W	S 46 28 E	1,619	Seth.
5	38 49 19.10	76 14 15.08	S 79 39 E	N 79 38 W	1,015	Sara.
			N 53 44 E	S 53 45 W	2,733	Herr.
			N 50 17 W	S 50 17 E	1,518	Seth.
6	38 49 25.66	76 13 36.92	N 71 02 W	S 71 03 E	2,300	Seth.
			S 0 57 W	N 0 57 E	402	Sara.
			S 31 53 E	N 31 54 W	2,025	Spar.
7	38 48 48.26	76 12 49.34	N 55 50 W	S 55 50 E	1,528	Sara.
			S 22 04 W	N 22 04 E	494	Spar.
			S 13 48 E	N 13 48 W	1,065	Deewat.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

SCOTLAND.

(*Miles River—Chart No. 32.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 48 27.86	76 12 50.08	S 38 19 E	N 38 19 W	441	Deewat.
			N 68 47 E	S 68 48 W	1,447	Ollie.
			N 0 40 W	S 0 40 E	3,344	Herr.
	Thence from corner No. 1 along the mean low-water line of the shore to corner No. 2, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
2	38 48 37.48	76 13 02.90	S 61 09 E	N 61 09 W	197	Spar.
			N 5 40 E	S 5 40 W	3,035	Herr.
			N 36 34 W	S 36 34 E	1,520	Sara.
3	38 48 48.26	76 12 49.34	N 55 50 W	S 55 50 E	1,528	Sara.
			S 22 04 W	N 22 04 E	494	Spar.
			S 13 48 E	N 13 48 W	1,065	Deewat.
4	38 48 41.30	76 12 31.26	N 57 53 W	S 57 54 E	2,055	Sara.
			S 71 22 W	N 71 21 E	700	Spar.
			S 15 35 W	N 15 35 E	830	Deewat.

DEEP WATER POINT.

(*Miles River—Chart No. 32.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 48 00.00	76 12 40.70	N 82 19 E	S 82 20 W	1,079	Swing.
			N 2 31 E	S 2 31 W	594	Deewat.
			S 22 13 W	N 22 13 E	650	Millwind.
2	38 48 10.35	76 12 49.92	S 0 08 W	N 0 08 E	951	Millwind.
			S 81 09 E	N 81 08 W	1,330	Swing.
			N 47 49 E	S 47 50 W	363	Deewat.
3	38 48 13.76	76 12 45.06	S 6 59 W	N 6 59 E	1,074	Millwind.
			S 74 54 E	N 74 54 W	1,228	Swing.
			N 47 32 E	S 47 32 W	191	Deewat.
4	38 48 03.59	76 12 32.86	S 32 04 W	N 32 03 E	853	Millwind.
			N 88 28 E	S 88 28 W	864	Swing.
			N 20 57 W	S 20 57 E	505	Deewat.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

ASH CRAFT.

(*Miles River—Chart No. 32.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 47 29.22	76 12 37.86	N 36 19 W	S 36 19 E	541	Millwind.
			S 69 19 W	N 69 19 E	1,579	St. Michaels Water Tank.
			S 30 02 E	N 30 02 W	2,198	Stony.
2	38 47 36.30	76 12 50.26	N 1 55 E	S 1 55 W	198	Millwind.
			S 55 18 W	N 55 18 E	1,400	St Michaels Water Tank.
			S 33 41 E	N 33 41 W	2,573	Stony.
3	38 47 51.46	76 12 34.16	N 64 17 E	S 64 18 W	996	Swing.
			N 9 26 W	S 9 26 E	893	Deewat.
			S 53 08 W	N 53 09 E	523	Millwind.
4	38 47 44.54	76 12 22.04	N 72 06 E	S 72 06 W	897	Fair.
			N 22 42 W	S 22 42 E	1,208	Deewat.
			S 83 48 W	N 83 47 E	743	Millwind.

SECOND POINT.

(*Miles River—Charts Nos. 32 and 34.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 47 13.02	76 12 07.27	N 48 56 W	S 48 57 E	1,496	Millwind.
			S 89 43 W	N 89 42 E	2,286	St. Michaels Water Tank.
			S 12 11 E	N 12 11 W	1,388	Stony.
2	38 47 25.98	76 12 21.26	N 54 17 W	S 54 17 E	935	Millwind.
			S 76 50 W	N 76 49 E	1,907	St. Michaels Water Tank.
			S 20 16 E	N 20 16 W	1,912	Stony.
3	38 47 52.66	76 12 09.96	N 89 49 E	S 89 49 W	534	Fair.
			N 43 02 W	S 43 03 E	1,150	Deewat.
			S 71 29 W	N 71 28 E	1,114	Millwind.
4	38 47 19.28	76 11 54.46	N 32 37 E	S 32 37 W	1,005	Leeds.
			N 62 15 W	S 62 15 E	1,657	Millwind.
			S 1 40 W	N 1 40 E	1,568	Stony.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

WILD GROUND.

(*Miles River—Chart No. 32.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 48 47.60	76 12 39.90	N 6 29 W	S 6 29 E	2,696	Herr.
			N 59 49 W	S 59 49 E	1,750	Sara.
			S 44 55 W	N 44 55 E	616	Spar.
2	38 49 15.62	76 12 56.20	N 4 03 E	S 4 03 W	1,738	Herr.
			S 86 34 W	N 86 33 E	1,085	Sara.
			S 0 12 W	N 0 12 E	1,381	Spar.
3	38 49 49.44	76 12 22.26	N 27 08 E	S 27 08 W	1,684	Frank.
			N 52 29 W	S 52 30 E	973	Herr.
			S 58 39 W	N 58 38 E	2,316	Sara.
4	38 49 41.90	76 12 09.46	N 23 16 E	S 23 16 W	1,375	Wood.
			N 52 39 W	S 52 39 E	1,397	Herr.
			S 67 40 W	N 67 39 E	2,503	Sara.

SYCAMORE.

(*Miles River—Chart No. 32.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 49 41.90	76 12 09.46	N 23 16 E	S 23 16 W	1,375	Wood.
			N 52 39 W	S 52 39 E	1,397	Herr.
			S 67 40 W	N 67 39 E	2,503	Sara.
2	38 49 49.44	76 12 22.26	N 27 08 E	S 27 08 W	1,684	Frank.
			N 52 29 W	S 52 30 E	973	Herr.
			S 58 39 W	N 58 38 E	2,316	Sara.
3	38 50 20.14	76 12 06.56	S 69 33 W	N 69 32 E	1,266	Herr.
			S 86 44 W	N 86 44 E	467	Wood.
			N 37 21 E	S 37 21 W	583	Frank.
4	38 50 19.38	76 11 48.90	N 12 52 W	S 12 52 E	502	Frank.
			S 75 50 W	N 75 50 E	1,704	Herr.
			S 4 42 W	N 4 41 E	3,249	Ollie.
	Thence from corner No. 4 along the mean low water line of the shore to corner No. 5, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
5	38 49 46.54	76 11 32.30	N 21 34 W	S 21 34 E	1,190	Wood.
			N 71 43 W	S 71 44 E	2,201	Herr.
			S 18 17 W	N 18 17 E	2,243	Ollie.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

EAST END.

(*Miles River—Chart No. 32.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 49 43.94	76 12 45.04	N 51 08 E	S 51 08 W	1,903	Wood.
			N 12 25 W	S 12 25 E	797	Herr.
			S 53 28 W	N 53 27 E	1,714	Sara.
2	38 50 07.02	76 12 51.54	N 59 31 E	S 59 32 W	1,787	Frank.
			N 20 33 E	S 20 33 W	2,270	Benn.
			S 79 08 W	N 79 07 E	3,433	Seth.
3	38 50 13.58	76 12 35.30	N 10 57 E	S 10 57 W	1,940	Benn.
			S 62 41 W	N 62 41 E	482	Herr.
			S 17 29 E	N 17 29 W	3,189	Ollie.
4	38 49 57.98	76 12 30.18	S 13 49 W	N 13 49 E	2,894	Spar.
			N 56 31 E	S 56 31 W	1,306	Wood.
			N 5 29 E	S 5 29 W	2,442	Benn.

HERRING ISLAND.

(*Miles River—Chart No. 32.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 50 07.02	76 12 51.54	N 59 31 E	S 59 32 W	1,787	Frank.
			N 20 33 E	S 20 33 W	2,270	Benn.
			S 79 08 W	N 79 07 E	3,433	Seth.
2	38 50 36.08	76 13 06.98	S 61 14 W	N 61 13 E	3,381	Seth.
			S 22 34 E	N 22 34 W	1,061	Herr.
			S 87 50 E	N 87 50 W	1,949	Frank.
3	38 50 48.30	76 13 17.28	S 9 22 W	N 9 22 E	3,234	Sara.
			S 77 40 E	N 77 39 W	2,271	Frank.
			N 63 33 E	S 63 34 W	1,648	Benn.
	Thence along county boundary as delineated on Chart No. 32 to corner No. 4.					
4	38 50 39.24	76 12 20.10	S 35 12 W	N 35 11 E	3,530	Sara.
			S 75 46 E	N 75 45 W	734	Frank.
			N 71 09 E	S 71 09 W	778	James.
5	38 50 13.58	76 12 35.30	N 10 57 E	S 10 57 W	1,940	Benn.
			S 62 41 W	N 62 41 E	482	Herr.
			S 17 29 E	N 17 29 W	3,189	Ollie.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

WYE TOWN.

(*Wye River—Chart No. 32.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 50 19.38	76 11 48.90	N 12 52 W	S 12 52 E	502	Frank.
			S 75 50 W	N 75 50 E	1,704	Herr.
			S 4 42 W	N 4 41 E	3,249	Ollie.
2	38 50 20.14	76 12 06.56	S 69 33 W	N 69 32 E	1,266	Herr.
			S 86 44 W	N 86 44 E	467	Wood.
			N 37 21 E	S 37 21 W	583	Frank.
3	38 50 42.68	76 12 10.64	S 57 17 E	N 57 18 W	549	Frank.
			N 74 25 E	S 74 26 W	505	James.
			N 16 59 W	S 16 59 E	966	Benn.
4	38 51 07.40	76 11 52.90	S 80 02 E	N 80 02 W	483	Law.
			N 31 36 E	S 31 36 W	973	Bruffs.
			N 83 11 W	S 83 11 E	755	Benn.
5	38 51 02.72	76 11 45.58	N 75 19 E	S 75 19 W	293	Law.
			N 17 48 E	S 17 49 W	1,037	Bruffs.
			N 75 17 W	S 75 18 E	975	Benn.
6	38 50 46.70	76 11 52.20	N 36 41 E	S 36 41 W	767	Law.
			N 44 17 W	S 44 17 E	1,100	Benn.
			S 49 29 W	N 49 28 E	2,059	Herr.

Thence from corner No. 6 along the mean low water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

BRUFFS ISLAND.

(*Wye River—Chart No. 32.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 51 02.72	76 11 45.58	N 75 19 E	S 75 19 W	293	Law.
			N 17 48 E	S 17 49 W	1,037	Bruffs.
			N 75 17 W	S 75 18 E	975	Benn.
2	38 51 07.40	76 11 52.90	S 80 02 E	N 80 02 W	483	Law.
			N 31 36 E	S 31 36 W	973	Bruffs.
			N 83 11 W	S 83 11 E	755	Benn.
3	38 51 41.96	76 11 39.82	N 2 29 E	S 2 29 W	888	Nose.
			N 89 01 W	S 89 01 E	431	Won.
			S 37 04 W	N 37 04 E	921	Hough.
4	38 51 43.96	76 11 25.88	S 85 42 W	N 85 42 E	801	Won.
			S 1 15 W	N 1 15 E	352	Shaw.
			N 62 46 E	S 62 46 W	482	South.
5	38 51 35.46	76 11 13.80	N 74 55 E	S 74 55 W	1,001	Edward.
			N 12 14 E	S 12 14 W	519	South.
			S 78 40 W	N 78 39 E	332	Shaw.
6	38 51 30.00	76 11 20.90	S 70 58 E	N 70 57 W	1,217	Colonel.
			N 68 55 E	S 68 55 W	1,236	Edward.
			N 49 30 W	S 49 30 E	183	Shaw.

Thence from corner No. 6 along the mean low water line of the shore to corner No. 7, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

7	38 51 20.02	76 11 32.06	N 5 36 W	S 5 36 E	406	Bruffs.
			N 89 36 W	S 89 36 E	759	Hough.
			S 8 12 W	N 8 12 E	514	Law.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

SHAW BAY HILL.

(*Wye River—Chart No. 32.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 51 08.66	76 11 18.45	N 73 27 E	S 73 27 W	1 133	Colonel.
			N 9 22 E	S 9 22 W	1,430	South.
			N 88 22 W	S 88 23 E	1,659	Benn.
2	38 51 14.64	76 11 18.42	N 83 38 E	S 83 38 W	1,091	Colonel.
			N 30 21 E	S 30 21 W	2,037	Flat.
			N 10 51 E	S 10 51 W	1,231	South.
3	38 51 14.62	76 11 11.94	N 82 25 E	S 82 25 W	922	Colonel.
			N 26 01 E	S 26 01 W	1,958	Flat.
			N 2 53 E	S 2 53 W	1,212	South.
4	38 51 08.78	76 11 12.28	N 70 57 E	S 70 57 W	977	Colonel.
			N 2 51 E	S 2 51 W	1,409	South.
			N 88 39 W	S 88 40 E	1,821	Benn.

RACE HORSE (Talbot County).

(*Wye River—Chart No. 32.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 51 21.58	76 10 55.52	S 76 47 E	N 76 47 W	493	Colonel.
			N 33 35 E	S 33 35 W	875	Edward.
			N 20 53 W	S 20 53 E	1,039	South.
2	38 51 41.04	76 10 59.44	N 82 59 E	S 83 00 W	592	Edward.
			N 40 06 W	S 40 06 E	417	South.
			S 70 13 W	N 70 12 E	749	Shaw.
	Thence along county boundary as delineated on Chart No. 32 to corner No. 3.					
3	38 51 56.76	76 10 34.74	S 8 00 W	N 8 00 E	463	Edward.
			N 57 01 E	S 57 02 W	753	Albert.
			N 19 54 W	S 19 54 E	360	Flat.
4	38 51 53.40	76 10 16.98	S 57 06 W	N 57 05 E	634	Edward.
			S 19 07 E	N 19 07 W	440	Lloyd.
			N 17 25 E	S 17 25 W	549	Albert.
5	38 51 44.00	76 10 18.00	N 47 24 E	S 47 25 W	1,001	Cousin.
			N 12 49 E	S 12 49 W	862	Albert.
			N 36 16 W	S 36 16 E	953	Flat.
	Thence from corner No. 5 along the mean low water line of the shore to corner No. 6, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide					
6	38 51 43.18	76 10 37.18	N 38 44 E	S 38 44 W	1,113	Albert.
			N 4 09 W	S 4 09 E	798	Flat.
			N 73 53 W	S 73 54 E	890	South.
7	38 51 29.42	76 10 39.24	N 6 41 E	S 6 41 W	467	Edward.
			N 48 25 W	S 48 26 E	1,072	South.
			S 7 48 E	N 7 48 W	381	Colonel.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

WINDERS BANK.

(*Wye River—Chart No. 32.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 51 49.42	76 10 01.20	N 30 43 E	S 30 43 W	575	Cousin.
			N 20 56 W	S 20 57 E	704	Albert.
			S 44 03 W	N 44 03 E	392	Lloyd.
2	38 51 55.86	76 10 09.00	S 7 36 W	N 7 36 E	503	Lloyd.
			N 60 57 E	S 60 57 W	572	Cousin.
			N 5 59 W	S 5 59 E	443	Albert.
	Thence along county boundary as delineated on Chart No. 32 to Corner No. 3.					
3	38 52 10.38	76 10 01.42	S 54 43 E	N 54 43 W	367	Cousin.
			N 28 00 E	S 28 00 W	226	Baldwins.
			N 47 03 W	S 47 04 E	329	Le Seur.
4	38 52 10.62	76 09 57.20	S 40 34 E	N 40 34 W	290	Cousin.
			N 1 35 W	S 1 35 E	191	Baldwins.
			S 80 56 W	N 80 56 E	362	Albert.
5	38 51 59.68	76 09 48.34	N 16 52 W	S 16 52 E	155	Cousin.
			N 62 10 W	S 62 10 E	668	Albert.
			S 44 15 W	N 44 15 E	876	Lloyd.

POPLAR POINT.

(*Wye River—Chart No. 32.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 52 18.68	76 09 56.06	N 28 19 E	S 28 19 W	287	Sylvia.
			N 29 06 W	S 29 06 E	344	Attila.
			S 23 40 W	N 23 40 E	87	Baldwins.
2	38 52 20.62	76 10 01.72	N 4 25 W	S 4 25 E	236	Attila.
			S 62 33 W	N 62 33 E	262	Le Seur.
			S 37 57 E	N 37 57 W	185	Baldwins.
	Thence along county boundary as delineated on Chart No. 32 to corner No. 3.					
3	38 52 26.50	76 09 57.10	S 1 19 W	N 1 19 E	344	Baldwins.
			S 85 52 E	N 85 52 W	163	Sylvia.
			N 41 24 E	S 41 24 W	490	Gusta.
	Thence along county boundary as delineated on Chart No. 32 to corner No. 4.					
4	38 52 52.64	76 09 45.28	S 89 31 W	N 89 31 E	396	Sang.
			S 26 53 E	N 26 53 W	265	Nodim.
			N 43 23 E	S 43 23 W	280	Go.
	Thence along county boundary as delineated on Chart No. 32 to corner No. 5.					
5	38 52 52.48	76 09 30.12	N 65 37 E	S 65 37 W	523	Divide.
			N 44 54 W	S 44 54 E	294	Go.
			S 50 31 W	N 50 31 E	362	Nodim.
6	38 52 47.54	76 09 30.62	S 80 45 E	N 80 45 W	611	Quarter.
			N 51 59 E	S 51 59 W	621	Divide.
			N 27 25 W	S 27 25 E	422	Go.
7	38 52 48.08	76 09 41.54	S 14 04 E	N 14 04 W	86	Nodim.
			N 14 39 E	S 14 39 W	369	Go.
			N 31 06 W	S 31 06 E	451	Turn.
8	38 52 32.68	76 09 47.50	N 23 59 E	S 23 59 W	174	Gusta.
			N 53 18 W	S 53 18 E	359	Tobins.
			S 22 12 W	N 22 12 E	237	Sylvia.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

JUNIPER.

(*Wye River—Chart No. 32.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 52 46.56	76 09 09.86	N 61 11 W	S 61 11 E	846	Go.
			S 40 31 E	N 40 31 W	85	Quarter.
			N 50 45 E	S 50 45 W	387	Deck.
2	38 52 49.82	76 09 12.98	N 65 41 W	S 65 41 E	724	Go.
			S 38 14 E	N 38 14 W	223	Quarter.
			N 70 33 E	S 70 33 W	405	Deck.
3	38 52 57.10	76 09 01.18	N 9 49 W	S 9 49 E	247	Princess.
			N 78 11 W	S 78 11 E	293	Divide.
			S 32 40 E	N 32 40 W	131	Deck.
4	38 52 54.80	76 08 58.88	N 17 45 W	S 17 45 E	338	Princess.
			N 68 24 W	S 68 24 E	374	Divide.
			S 17 17 E	N 17 17 W	34	Deck.

POPLAR ISLAND NARROWS.

(*Chesapeake Bay—Vicinity Poplar Island—Chart No. 33.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 44 39.07	76 20 37.00	N 7 13 E	S 7 13 W	577	Great.
			N 50 49 W	N 50 51 E	5,069	Valliant.
			S 0 30 E	N 0 30 W	1,280	Front.
2	38 44 43.23	76 20 53.90	S 17 51 E	N 17 51 W	1,492	Front.
			N 50 12 E	S 50 12 W	676	Great.
			N 18 18 E	S 18 18 W	3,912	Haddaway.
3	38 44 50.35	76 21 22.52	S 36 10 E	N 36 10 W	2,056	Front.
			N 81 25 E	S 81 26 W	1,289	Great.
			N 29 44 E	S 29 44 W	4,000	Haddaway.
4	38 45 32.22	76 22 03.07	S 65 03 W	N 65 03 E	1,179	Poplar South.
			S 62 32 E	N 62 31 W	2,643	Great.
			N 55 58 E	S 56 00 W	3,685	Haddaway.
5	38 47 09.33	76 21 17.76	S 14 20 E	N 14 20 W	4,639	Great.
			S 56 52 E	N 56 52 W	2,219	Haddaway.
			N 46 41 E	S 46 43 W	7,455	Kemp Tower.
6	38 47 16.80	76 20 36.40	S 27 37 E	N 27 37 W	1,654	Haddaway.
			N 41 42 E	S 41 44 W	6,497	Kemp Tower.
			N 39 44 W	S 39 46 E	7,208	Bloody Point Bar Light.
7	38 46 06.70	76 20 50.90	S 60 48 W	N 60 47 E	3,402	Poplar South.
			S 10 28 E	N 10 28 W	2,422	Great.
			N 51 58 E	S 51 58 W	1,459	Haddaway.
8	38 46 03.46	76 20 20.90	N 19 31 E	S 19 31 W	1,070	Haddaway.
			S 67 36 W	N 67 34 E	4,068	Poplar South.
			S 8 49 W	N 8 49 E	2,300	Great.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

POPLAR ISLAND NARROWS—Continued.

(*Chesapeake Bay—Vicinity Poplar Island—Chart No. 33*)—Continued.

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
9	38 45 45.58	76 20 17.42	N 9 21 E	S 9 21 W	1,633	Haddaway.
			S 76 11 W	N 76 13 E	3,968	Poplar South.
			S 14 54 W	N 14 54 E	1,728	Great.
10	38 45 04.40	76 20 39.70	N 15 53 E	S 15 53 W	3,119	Haddaway.
			N 58 40 W	S 58 41 E	4,515	Valliant.
			S 2 12 E	N 2 12 W	2,135	Front.

BAY HUNDRED.

(*Chesapeake Bay—Vicinity Poplar Island—Chart No. 33.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 42 49.30	76 21 17.92	S 36 04 E	N 36 04 W	1,124	Wap.
			N 24 16 E	S 24 16 W	2,657	Front.
			N 24 19 W	S 24 20 E	5,483	Poplar South.
2	38 43 14.68	76 22 06.60	S 47 50 E	N 47 50 W	2,628	Wap.
			N 56 37 E	S 56 38 W	2,848	Front.
			N 13 16 W	S 13 16 E	4,254	Poplar South.
3	38 44 20.44	76 21 22.35	S 61 41 E	N 61 41 W	1,374	Front.
			N 46 37 E	S 46 37 W	1,748	Great.
			N 48 09 W	S 48 09 E	2,882	Poplar South.
4	38 44 50.35	76 21 22.52	S 36 10 E	N 36 10 W	2,056	Front.
			N 81 25 E	S 81 26 W	1,289	Great.
			N 29 44 E	S 29 44 W	4,000	Haddaway.
5	38 44 43.23	76 20 53.90	S 17 51 E	N 17 51 W	1,492	Front.
			N 50 12 E	S 50 12 W	676	Great.
			N 18 18 E	S 18 18 W	3,912	Haddaway.
6	38 43 28.42	76 20 41.93	N 7 17 E	S 7 17 W	1,112	Front.
			N 41 05 W	S 41 06 E	4,880	Poplar South.
			S 7 24 W	N 7 24 E	2,246	Wap.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

PONE.

(Chesapeake Bay—Off Tilghman Island—Chart No. 33.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 40 32.40	76 21 36.58	S 18 42 W	N 18 41 E	4,692	Sharps Island Light.
			S 65 21 E	N 65 20 W	2,090	Black.
			N 17 18 E	S 17 18 W	3,883	Wap.
2	38 41 18.60	76 22 39.92	S 1 38 E	N 1 38 W	6,004	Sharps Island Light.
			S 55 48 E	N 55 47 W	4,321	Black.
			N 52 46 E	S 52 47 W	3,553	Wap.
3	38 43 14.68	76 22 06.60	S 47 50 E	N 47 50 W	2,628	Wap.
			N 56 37 E	S 56 38 W	2,848	Front.
			N 13 16 W	S 13 16 E	4,254	Poplar South.
4	38 42 49.30	76 21 17.92	S 36 04 E	N 36 04 W	1,124	Wap.
			N 24 16 E	S 24 16 W	2,657	Front.
			N 24 19 W	S 24 20 E	5,483	Poplar South.

STONE.

(Chesapeake Bay—Vicinity Sharps Island—Charts Nos. 33 and 36.)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 37 35.72	76 24 17.16	S 75 41 E	N 75 40 W	3,986	Jere.
			N 86 28 E	S 86 32 W	10,825	Chef.
			N 29 11 E	S 29 13 W	11,070	Wap.
2	38 38 33.84	76 24 01.16	S 49 25 E	N 49 24 W	4,529	Jere.
			S 79 07 E	N 79 06 W	2,363	Sharps Island Light.
			N 32 51 E	S 32 53 W	9,172	Wap.
3	38 40 14.30	76 22 52.76	S 7 36 E	N 7 36 W	3,867	Sharps Island Light.
			S 86 11 E	N 86 09 W	3,922	Black.
			N 36 16 E	S 36 17 W	5,355	Wap.
4	38 40 04.04	76 21 54.70	S 16 22 W	N 16 22 E	3,635	Sharps Island Light.
			N 87 57 E	S 87 58 W	2,382	Black.
			N 19 18 E	S 19 19 W	4,942	Wap.
5	38 38 44.36	76 22 11.12	S 36 24 W	N 36 23 E	994	Sharps Island Light.
			S 9 05 E	N 9 05 W	3,342	Jere.
			N 45 25 E	S 45 26 W	3,949	Black.
6	38 38 54.12	76 21 13.58	S 15 19 W	N 15 19 E	3,763	Jere.
			S 71 39 E	N 71 36 W	6,266	Chef.
			N 27 54 E	S 27 55 W	2,758	Black.
7	38 38 34.48	76 21 08.08	N 20 15 E	S 20 15 W	3,309	Black.
			S 78 18 W	N 78 17 E	2,305	Sharps Island Light.
			S 21 01 W	N 21 01 E	3,178	Jere.
8	38 37 41.36	76 21 56.68	N 86 07 E	S 86 10 W	7,104	Chef.
			N 26 24 E	S 26 25 W	5,467	Black.
			N 36 17 W	S 36 18 E	1,646	Sharps Island Light.
9	38 37 39.48	76 22 45.64	S 52 21 E	N 52 20 W	1,816	Jere.
			N 86 18 E	S 86 21 W	8,400	Chef.
			N 17 21 E	S 17 22 W	9,993	Wap.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

CLAY BANK.

(*Chesapeake Bay—Vicinity Sharps Island—Charts Nos. 33 and 36.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 35 41.40	76 23 14.60	N 75 15 E	S 75 19 W	10,593	Cook Point Windmill.
			N 37 44 E	S 37 44 W	3,606	Jere.
			N 11 28 E	S 11 28 W	5,479	Sharps Island Light.
2	38 36 37.96	76 24 10.30	N 86 10 E	S 86 14 W	11,743	Cook Point Windmill.
			N 75 22 E	S 75 23 W	3,805	Jere.
			N 36 31 E	S 36 32 W	4,307	Sharps Island Light.
3	38 37 35.72	76 24 17.16	S 75 41 E	N 75 40 W	3,986	Jere.
			N 86 28 E	S 86 32 W	10,825	Chef.
			N 29 11 E	S 29 13 W	11,070	Wap.
4	38 37 39.48	76 22 45.64	S 52 21 E	N 52 20 W	1,816	Jere.
			N 86 18 E	S 86 21 W	8,400	Chef.
			N 17 21 E	S 17 22 W	9,993	Wap.
5	38 36 51.72	76 22 33.70	N 87 58 E	S 88 02 W	9,168	Cook Point Windmill.
			N 66 07 E	S 66 07 W	1,231	Jere.
			N 00 08 E	S 00 08 W	3,000	Sharps Island Light.

SHARPS.

(*Outer Choptank River—Charts Nos. 33, 36, and 37.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 36 39.40	76 20 43.16	S 62 38 E	N 62 36 W	7,797	Brannock.
			N 63 26 E	S 63 28 W	5,750	Chef.
			N 40 31 W	S 40 32 E	4,489	Sharps Island Light.
2	38 36 58.92	76 21 10.24	N 71 57 E	S 72 00 W	6,162	Chef.
			N 38 37 W	S 38 38 E	3,526	Sharps Island Light.
			N 76 43 W	S 76 44 E	1,112	Jere.
3	38 36 58.72	76 20 27.22	S 56 56 E	N 56 53 W	7,761	Brannock.
			N 67 52 E	S 67 54 W	5,096	Chef.
			N 50 24 W	S 50 26 E	4,332	Sharps Island Light.
	Thence along county boundary as delineated on charts Nos. 33, 36, and 37 to corner No. 1.					

BOUNDARIES OF NATURAL OYSTER BARS—continued.

BLACK WALNUT.

(Outer Choptank River—Charts Nos. 33, 36, and 37.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 39 19.32	76 18 25.64	N 18 55 W	S 18 55 E	4,354	Bar.
			N 63 10 W	S 63 12 E	3,529	Black.
			S 73 11 W	N 73 13 E	6,847	Sharps Island Light.
2	38 39 32.44	76 19 53.16	N 13 47 E	S 13 47 W	3,786	Bar.
			N 35 58 W	S 35 58 E	1,422	Black.
			S 60 15 W	N 60 13 E	4,882	Sharps Island Light.
3	38 40 30.48	76 20 13.35	N 13 01 W	S 13 01 E	2,224	Southern M. E. Church.
			S 20 30 W	N 20 30 E	861	Black.
			S 39 50 E	N 39 48 W	6,798	Chef.
4	38 40 30.20	76 18 36.52	N 33 01 W	S 33 02 E	2,061	Bar.
			S 74 26 W	N 74 25 E	2,970	Black.
			S 55 06 W	N 55 03 E	7,640	Sharps Island Light.
5	38 40 05.28	76 17 58.64	N 39 36 W	S 39 37 E	3,333	Bar.
			N 89 22 W	S 89 23 E	3,864	Black.
			S 64 05 W	N 64 02 E	8,081	Sharps Island Light.
6	38 39 29.24	76 17 58.36	N 29 27 W	S 29 28 E	4,336	Bar.
			N 71 59 W	S 72 01 E	4,069	Black.
			S 72 20 W	N 72 17 E	7,636	Sharps Island Light.

SANDS.

(Outer Choptank River—Chart No. 33.)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 40 05.28	76 17 58.64	N 39 36 W	S 39 37 E	3,333	Bar.
			N 89 22 W	S 89 23 E	3,864	Black.
			S 64 05 W	N 64 02 E	8,081	Sharps Island Light.
2	38 40 30.20	76 18 36.52	N 33 01 W	S 33 02 E	2,061	Bar.
			S 74 26 W	N 74 25 E	2,970	Black.
			S 55 06 W	N 55 03 E	7,640	Sharps Island Light.
3	38 41 30.48	76 18 56.80	N 28 10 E	S 28 11 W	3,509	Change 1910.
			N 37 16 W	S 37 17 E	2,709	Avalon.
			S 62 38 W	N 62 38 E	662	Bar.
4	38 41 48.84	76 17 59.20	N 78 54 E	S 78 56 W	2,791	Nelson 3.
			N 3 07 E	S 3 07 W	2,478	Change 1910.
			S 66 20 W	N 66 20 E	2,304	Bar.
5	38 40 56.92	76 17 58.88	N 1 43 E	S 1 43 W	4,227	Change 1910.
			N 68 40 W	S 68 41 E	2,274	Bar.
			S 66 14 W	N 66 12 E	4,214	Black.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

PLEASANT HILL.

(Outer Choptank River—Charts Nos. 33, 34, and 36.)

Corner of bar	Latitude	Longitude	True bearing		Distance*	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 40 04.20	76 17 01.08	N 16 28 E	S 16 29 W	4,240	Nelson 3.
			N 54 28 W	S 54 29 E	4,480	Bar.
			N 89 10 W	S 89 11 E	5,385	Black.
2	38 40 05.28	76 17 58.64	N 39 36 W	S 39 37 E	3,333	Bar.
			N 89 22 W	S 89 23 E	3,864	Black.
			S 64 05 W	N 64 02 E	8,081	Sharps Island Light.
3	38 40 56.92	76 17 58.88	N 1 43 E	S 1 43 W	4,227	Change 1910.
			N 68 40 W	S 68 41 E	2,274	Bar.
			S 66 14 W	N 66 12 E	4,214	Black.
4	38 40 57.06	76 17 00.88	N 27 40 E	S 27 41 W	2,578	Nelson 3.
			N 77 19 W	S 77 20 E	3,743	Bar.
			S 72 27 W	N 72 25 E	5,653	Black.
5	38 40 14.76	76 17 01.00	N 17 56 E	S 17 56 W	3,899	Nelson 3.
			N 58 21 W	S 58 23 E	4,286	Bar.
			S 87 03 W	N 87 01 E	5,394	Black.

CHURCH HILL.

(Outer Choptank River—Charts Nos. 33 and 34.)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 40 56.92	76 17 58.88	N 1 43 E	S 1 43 W	4,227	Change 1910.
			N 68 40 W	S 68 41 E	2,274	Bar.
			S 66 14 W	N 66 12 E	4,214	Black.
2	38 41 48.84	76 17 59.20	N 78 54 E	S 78 56 W	2,791	Nelson 3.
			N 3 07 E	S 3 07 W	2,478	Change 1910.
			S 66 20 W	N 66 20 E	2,304	Bar.
3	38 41 54.74	76 17 00.72	N 74 10 E	S 74 11 W	1,240	Nelson 3.
			N 31 48 W	S 31 48 E	2,677	Change 1910.
			S 72 55 W	N 72 54 E	3,824	Bar.
4	38 40 57.06	76 17 00.88	N 27 40 E	S 27 41 W	2,578	Nelson 3.
			N 77 19 W	S 77 20 E	3,743	Bar.
			S 72 27 W	N 72 25 E	5,653	Black.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

WILD CHERRY TREE.

(Entrance Harris Creek—Chart No. 33.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 41 30.48	76 18 56.80	N 28 10 E	S 28 11 W	3,509	Change 1910.
			N 37 16 W	S 37 17 E	2,709	Avalon.
			S 62 38 W	N 62 38 E	662	Bar.
2	38 42 38.54	76 18 45.48	N 59 33 E	S 59 33 W	1,575	Change 1910.
			N 47 25 W	S 47 25 E	1,534	Narrows.
			S 85 52 W	N 85 52 E	1,944	Avalon.
3	38 42 49.28	76 18 17.26	S 64 58 E	N 64 57 W	3,549	Nelson 3.
			N 54 32 E	S 54 32 W	751	Change 1910.
			N 20 47 W	S 20 47 E	2,232	Eagle.
4	38 42 16.70	76 18 07.44	S 82 15 E	N 82 13 W	2,990	Nelson 3.
			N 12 56 E	S 12 56 W	1,575	Change 1910.
			N 50 16 W	S 50 16 E	2,776	Narrows.
5	38 41 48.84	76 17 59.20	N 78 54 E	S 78 56 W	2,791	Nelson 3.
			N 3 07 E	S 3 07 W	2,478	Change 1910.
			S 66 20 W	N 66 20 E	2,304	Bar.

TURNROW.

(Entrance Harris Creek—Charts Nos. 33 and 34.)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 42 16.70	76 18 07.44	S 82 15 E	N 82 13 W	2,990	Nelson 3.
			N 12 56 E	S 12 56 W	1,575	Change 1910.
			N 50 16 W	S 50 16 E	2,776	Narrows.
2	38 42 49.28	76 18 17.26	S 64 58 E	N 64 57 W	3,549	Nelson 3.
			N 54 32 E	S 54 32 W	751	Change 1910.
			N 20 47 W	S 20 47 E	2,232	Eagle.
3	38 42 44.24	76 17 39.02	N 33 19 W	S 33 20 E	725	Change 1910.
			N 73 40 W	S 73 41 E	3,007	Narrows.
			S 43 26 W	N 43 25 E	3,845	Bar.
4	38 42 23.58	76 17 32.14	S 72 35 E	N 72 34 W	2,120	Nelson 3.
			N 24 00 W	S 24 01 E	1,426	Change 1910.
			N 63 18 W	S 63 19 E	3,433	Narrows.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

TILGHMAN WHARF.

(Entrance Harris Creek—Chart No. 33.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 41 30.48	76 18 56.80	N 28 10 E	S 28 11 W	3,509	Change 1910.
			N 37 16 W	S 37 17 E	2,709	Avalon.
			S 62 38 W	N 62 38 E	662	Bar.
2	38 41 55.62	76 19 44.20	S 30 00 E	N 30 00 W	1,330	Bar.
			N 52 20 E	S 52 21 W	3,674	Change 1910.
			N 16 32 W	S 16 32 E	1,364	Avalon.
3	38 42 15.82	76 19 50.27	S 24 15 E	N 24 15 W	2,010	Bar.
			N 63 00 E	S 63 01 W	3,445	Change 1910.
			N 19 59 W	S 19 59 E	666	Avalon.
4	38 42 45.90	76 19 41.50	S 49 46 W	N 49 46 E	601	Avalon.
			S 11 47 E	N 11 47 W	2,909	Bar.
			S 79 02 E	N 79 03 W	2,890	Change 1910.
5	38 43 09.63	76 19 11.75	S 46 20 W	N 46 20 E	1,721	Avalon.
			S 83 02 E	N 83 01 W	2,067	Change 1910.
			N 24 48 E	S 24 48 W	1,543	Eagle.
6	38 42 38.54	76 18 45.48	N 59 33 E	S 59 33 W	1,575	Change 1910.
			N 47 25 W	S 47 25 E	1,534	Narrows.
			S 85 52 W	N 85 52 E	1,944	Avalon.

CHANGE.

(Harris Creek—Chart No. 33.)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 42 38.54	76 18 45.48	N 59 33 E	S 59 33 W	1,575	Change 1910.
			N 47 25 W	S 47 25 E	1,534	Narrows.
			S 85 52 W	N 85 52 E	1,944	Avalon.
2	38 43 31.82	76 18 32.34	S 45 20 E	N 45 20 W	1,421	Change 1910.
			N 77 36 E	S 77 36 W	903	Hen.
			N 27 57 E	S 27 58 W	2,442	Ball.
3	38 43 39.24	76 18 18.86	S 27 39 E	N 27 39 W	1,410	Change 1910.
			S 83 53 E	N 83 53 W	528	Hen.
			N 22 28 E	S 22 29 W	2,064	Ball.
4	38 43 22.44	76 18 02.20	N 8 02 E	S 8 02 W	2,498	Ball.
			N 50 50 W	S 50 51 E	1,534	Eagle.
			S 78 59 W	N 78 58 E	2,315	Narrows.
5	38 42 49.28	76 18 17.26	S 64 58 E	N 64 57 W	3,549	Nelson 3.
			N 54 32 E	S 54 32 W	751	Change 1910.
			N 20 47 W	S 20 47 E	2,232	Eagle.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

EAGLE POINT.

(*Harris Creek—Chart No. 33.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 43 31.82	76 18 32.34	S 45 20 E	N 45 20 W	1,421	Change 1910.
			N 77 36 E	S 77 36 W	903	Hen.
			N 27 57 E	S 27 58 W	2,442	Ball.
2	38 43 32.42	76 19 00.68	S 59 55 E	N 59 54 W	2,033	Change 1910.
			N 83 55 E	S 83 56 W	1,639	Hen.
			N 41 33 E	S 41 33 W	2,854	Ball.
3	38 43 42.98	76 18 58.40	S 51 01 E	N 51 00 W	2,185	Change 1910.
			S 83 22 E	N 83 22 W	1,580	Hen.
			N 45 50 E	S 45 51 W	2,556	Ball.
4	38 43 47.54	76 18 33.20	S 34 03 E	N 34 03 W	1,845	Change 1910.
			S 69 37 E	N 69 36 W	965	Hen.
			N 35 40 E	S 35 40 W	2,002	Ball.
5	38 44 11.83	76 18 36.80	S 40 52 E	N 40 52 W	1,528	Hen.
			N 57 23 E	S 57 24 W	1,499	Ball.
			N 16 32 E	S 16 32 W	2,001	Warrior.
6	38 44 09.12	76 18 21.80	S 29 33 E	N 29 33 W	1,224	Hen.
			N 43 56 E	S 43 56 W	1,249	Ball.
			N 28 46 W	S 28 46 E	1,351	Dunk.
7	38 43 39.24	76 18 18.86	S 27 39 E	N 27 39 W	1,410	Change 1910.
			S 83 53 E	N 83 53 W	528	Hen.
			N 22 28 E	S 22 29 W	2,064	Ball.

TURKEY NECK.

(*Harris Creek—Chart No. 33.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 43 39.24	76 18 18.86	S 27 39 E	N 27 39 W	1,410	Change 1910.
			S 83 53 E	N 83 53 W	528	Hen.
			N 22 28 E	S 22 29 W	2,064	Ball.
2	38 44 09.12	76 18 21.80	S 29 33 E	N 29 33 W	1,224	Hen.
			N 43 56 E	S 43 56 W	1,249	Ball.
			N 28 46 W	S 28 46 E	1,351	Dunk.
3	38 44 04.26	76 17 55.44	N 44 57 W	S 44 58 E	1,906	Dunk.
			S 72 08 W	N 72 08 E	1,438	Eagle.
			S 5 54 W	N 5 54 E	904	Hen.
4	38 43 45.80	76 18 06.96	N 27 52 W	S 27 52 E	2,230	Dunk.
			N 80 18 W	S 80 19 E	1,079	Eagle.
			S 13 01 E	N 13 01 W	1,509	Change 1910.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

MILL POINT.

(*Harris Creek—Chart No. 33.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 44 04.26	76 17 55.44	N 44 57 W	S 44 58 E	1,906	Dunk.
			S 72 08 W	N 72 08 E	1,438	Eagle.
			S 5 54 W	N 5 54 E	904	Hen.
2	38 44 09.12	76 18 21.80	S 29 33 E	N 29 33 W	1,224	Hen.
			N 43 56 E	S 43 56 W	1,249	Ball.
			N 28 46 W	S 28 46 E	1,351	Dunk.
3	38 44 47.38	76 18 25.46	S 67 55 E	N 67 55 W	1,039	Ball.
			N 20 34 E	S 20 34 W	769	Warrior.
			N 35 13 W	S 35 13 E	1,041	Hawk.
4	38 44 51.00	76 18 00.90	N 59 44 W	S 59 45 E	1,446	Hawk.
			S 79 17 W	N 79 16 E	1,224	Dunk.
			S 31 15 W	N 31 15 E	2,360	Eagle.
5	38 44 36.98	76 17 55.72	N 49 04 W	S 49 05 E	1,834	Hawk.
			N 79 37 W	S 79 38 E	1,362	Dunk.
			S 41 23 W	N 41 23 E	2,059	Eagle.

HUNTS.

(*Harris Creek—Chart No. 33.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 44 09.12	76 18 21.80	S 29 33 E	N 29 33 W	1,224	Hen.
			N 43 56 E	S 43 56 W	1,249	Ball.
			N 28 46 W	S 28 46 E	1,351	Dunk.
2	38 44 11.83	76 18 36.80	S 40 52 E	N 40 52 W	1,528	Hen.
			N 57 23 E	S 57 24 W	1,499	Ball.
			N 16 32 E	S 16 32 W	2,001	Warrior.
3	38 44 19.42	76 18 54.98	S 46 22 E	N 46 21 W	2,045	Hen.
			N 72 26 E	S 72 27 W	1,828	Ball.
			N 32 16 E	S 32 16 W	1,966	Warrior.
4	38 44 25.50	76 18 42.80	S 35 37 E	N 35 37 W	1,988	Hen.
			N 76 17 E	S 76 17 W	1,463	Ball.
			N 26 32 E	S 26 32 W	1,629	Warrior.
5	38 44 33.24	76 18 44.02	S 32 23 E	N 32 22 W	2,223	Hen.
			N 86 37 E	S 86 37 W	1,456	Ball.
			N 32 26 E	S 32 26 W	1,417	Warrior.
6	38 44 38.50	76 18 55.12	S 35 50 E	N 35 49 W	2,534	Hen.
			S 87 00 E	N 86 59 W	1,749	Ball.
			N 45 57 E	S 45 57 W	1,465	Warrior.
	Thence from corner No. 6 along the mean low-water line of the shore to corner No. 7, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
7	38 44 44.25	76 18 46.42	S 79 21 E	N 79 20 W	1,543	Ball.
			N 44 57 E	S 44 57 W	1,166	Warrior.
			N 2 48 W	S 2 48 E	958	Hawk.
8	38 44 47.38	76 18 25.46	S 67 55 E	N 67 55 W	1,039	Ball.
			N 20 34 E	S 20 34 W	769	Warrior.
			N 35 13 W	S 35 13 E	1,041	Hawk.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

SETHS POINT.

(*Harris Creek—Chart No. 33.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 44 44.25	76 18 46.42	S 79 21 E	N 79 20 W	1,543	Ball.
			N 44 57 E	S 44 57 W	1,166	Warrior.
			N 2 48 W	S 2 48 E	958	Hawk.
2	38 45 06.30	76 18 44.22	S 54 48 E	N 54 48 W	1,785	Ball.
			N 83 55 E	S 83 55 W	770	Warrior.
			N 7 06 E	S 7 06 W	1,575	Smith.
3	38 45 01.47	76 18 27.00	S 49 13 E	N 49 13 W	1,325	Ball.
			N 51 47 E	S 51 47 W	396	Warrior.
			N 8 34 W	S 8 34 E	1,744	Smith.
4	38 44 51.00	76 18 00.90	N 59 44 W	S 59 45 E	1,446	Hawk.
			S 79 17 W	N 79 16 E	1,224	Dunk.
			S 31 15 W	N 31 15 E	2,360	Eagle.
5	38 44 47.38	76 18 25.46	S 67 55 E	N 67 55 W	1,039	Ball.
			N 20 34 E	S 20 34 W	769	Warrior.
			N 35 13 W	S 35 13 E	1,041	Hawk.

LODGES.

(*Harris Creek—Chart No. 33.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 45 01.47	76 18 27.00	S 49 13 E	N 49 13 W	1,325	Ball.
			N 51 47 E	S 51 47 W	396	Warrior.
			N 8 34 W	S 8 34 E	1,744	Smith.
2	38 45 06.30	76 18 44.22	S 54 48 E	N 54 48 W	1,785	Ball.
			N 83 55 E	S 83 55 W	770	Warrior.
			N 7 06 E	S 7 06 W	1,575	Smith.
3	38 45 39.46	76 18 54.80	S 45 13 E	N 45 13 W	1,472	Warrior.
			S 82 54 E	N 82 54 W	1,531	Edmond.
			N 67 38 E	S 67 39 W	2,054	Dan.
4	38 45 20.25	76 18 10.74	N 32 12 W	S 32 12 E	1,292	Smith.
			S 75 22 W	N 75 22 E	1,020	Hawk.
			S 37 49 W	N 37 49 E	1,537	Dunk.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

WALNUT.

(Harris Creek—Chart No. 33.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 45 20.25	76 18 10.74	N 32 12 W	S 32 12 E	1,292	Smith.
			S 75 22 W	N 75 22 E	1,020	Hawk.
			S 37 49 W	N 37 49 E	1,537	Dunk.
2	38 45 39.46	76 18 54.80	S 45 13 E	N 45 13 W	1,472	Warrior.
			S 82 54 E	N 82 54 W	1,531	Edmond.
			N 67 38 E	S 67 39 W	2,054	Dan.
3	38 45 52.64	76 18 36.85	S 12 31 W	N 12 31 E	1,382	Hawk.
			S 58 47 E	N 58 47 W	1,223	Edmond.
			N 76 41 E	S 76 41 W	1,465	Dan.
4	38 45 53.40	76 17 53.60	N 11 49 E	S 11 49 W	775	Vine.
			S 88 43 W	N 88 42 E	1,142	Smith.
			S 20 46 W	N 20 46 E	1,612	Warrior.

SMITH POINT.

(Harris Creek—Chart No. 33.)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 45 52.64	76 18 36.85	S 12 31 W	N 12 31 E	1,382	Hawk.
			S 58 47 E	N 58 47 W	1,223	Edmond.
			N 76 41 E	S 76 41 W	1,465	Dan.
2	38 46 14.47	76 18 17.00	S 21 33 W	N 21 33 E	2,243	Hawk.
			N 20 50 E	S 20 50 W	1,465	Edmond.
			S 66 10 E	N 66 09 W	986	Dan.
3	38 46 00.00	76 17 59.00	S 2 59 E	N 2 59 W	884	Edmond.
			N 78 11 E	S 78 11 W	436	Dan.
			N 34 33 E	S 34 33 W	1,215	Cummings.
4	38 45 53.40	76 17 53.60	N 11 49 E	S 11 49 W	775	Vine.
			S 88 43 W	N 88 42 E	1,142	Smith.
			S 20 46 W	N 20 46 E	1,612	Warrior.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

LITTLE NECK.

(Harris Creek—Charts Nos. 33 and 34.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 45 53.40	76 17 53.60	N 11 49 E	S 11 49 W	775	Vine.
			S 88 43 W	N 88 42 E	1,142	Smith.
			S 20 46 W	N 20 46 E	1,612	Warrior.
2	38 46 00.00	76 17 59.00	S 2 59 E	N 2 59 W	884	Edmond.
			N 78 11 E	S 78 11 W	436	Dan.
			N 34 33 E	S 34 33 W	1,215	Cummings.
3	38 46 15.90	76 17 47.59	S 58 54 W	N 58 54 E	1,519	Smith.
			S 15 43 E	N 15 43 W	464	Dan.
			S 84 29 E	N 84 28 W	899	Fox.
4	38 46 13.74	76 17 35.30	N 6 45 E	S 6 45 W	541	Cummings.
			N 77 21 W	S 77 21 E	332	Vine.
			S 28 00 W	N 28 00 E	423	Dan.

RABBIT ISLAND.

(Harris Creek—Chart No. 34.)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 46 13.74	76 17 35.30	N 6 45 E	S 6 45 W	541	Cummings.
			N 77 21 W	S 77 21 E	332	Vine.
			S 28 00 W	N 28 00 E	423	Dan.
2	38 46 25.28	76 17 24.96	S 31 44 W	N 31 43 E	898	Dan.
			S 36 26 E	N 36 26 W	501	Fox.
			S 74 08 E	N 74 07 W	843	Koot.
3	38 46 23.38	76 17 00.15	S 46 32 W	N 46 31 E	492	Fox.
			S 43 10 E	N 43 10 W	229	Koot.
			N 85 12 E	S 85 12 W	886	Bozman.
4	38 46 16.70	76 17 00.10	N 31 01 E	S 31 01 W	510	Grace.
			N 34 32 W	S 34 32 E	447	Rabbit.
			S 88 46 W	N 88 46 E	1,254	Vine.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

DAWSON.

(Outer Choptank River—Chart No. 34.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 39 58.32	76 15 41.88	N 41 38 E	S 41 39 W	4,344	Roys.
			N 11 48 W	S 11 48 E	4,356	Nelson 3.
			N 63 59 W	S 64 01 E	6,387	Bar.
2	38 40 14.76	76 17 01.00	N 17 56 E	S 17 56 W	3,899	Nelson 3.
			N 58 21 W	S 58 23 E	4,286	Bar.
			S 87 03 W	N 87 01 E	5,394	Black.
3	38 40 57.06	76 17 00.88	N 27 40 E	S 27 41 W	2,578	Nelson 3.
			N 77 19 W	S 77 20 E	3,743	Bar
			S 72 27 W	N 72 25 E	5,653	Black.
4	38 40 57.08	76 16 09.60	N 70 50 E	S 70 52 W	3,831	Roys.
			N 03 58 W	S 03 58 E	2,289	Nelson 3.
			N 80 41 W	S 80 43 E	5,073	Bar.

FRANCE.

(Outer Choptank River—Chart No. 34.)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 40 57.06	76 17 00.88	N 27 40 E	S 27 41 W	2,578	Nelson 3.
			N 77 19 W	S 77 20 E	3,743	Bar.
			S 72 27 W	N 72 25 E	5,653	Black.
2	38 41 54.74	76 17 00.72	N 74 10 E	S 74 11 W	1,240	Nelson 3.
			N 31 48 W	S 31 48 E	2,677	Change 1910.
			S 72 55 W	N 72 54 E	3,824	Bar.
3	38 41 55.12	76 16 10.76	S 79 09 E	N 79 08 W	3,716	Roys.
			N 21 22 W	S 21 23 E	349	Nelson 3.
			S 77 08 W	N 77 06 E	5,104	Bar.
4	38 40 57.08	76 16 09.60	N 70 50 E	S 70 52 W	3,831	Roys.
			N 03 58 W	S 03 58 E	2,289	Nelson 3.
			N 80 41 W	S 80 43 E	5,073	Bar.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

GREAT MARSH.

(*Outer Choptank River—Chart No. 34.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	′ °	*Yards.*	
1	38 41 54.74	76 17 00.72	N 74 10 E	S 74 11 W	1,240	Nelson 3.
			N 31 48 W	S 31 48 E	2,677	Change 1910.
			S 72 55 W	N 72 54 E	3,824	Bar.
2	38 42 07.41	76 17 16.12	S 86 49 E	N 86 48 W	1,602	Nelson 3.
			N 28 30 W	S 28 31 E	2,103	Change 1910.
			S 64 30 W	N 64 28 E	3,599	Bar.
3	38 42 44.90	76 17 04.80	N 65 52 W	S 65 52 E	1,427	Change 1910.
			S 51 35 W	N 51 33 E	4,529	Bar.
			S 43 52 E	N 43 51 W	1,877	Nelson 3.
4	38 42 27.90	76 16 37.15	N 60 22 W	S 60 23 E	2,339	Change 1910.
			S 62 21 W	N 62 19 E	4,830	Bar.
			S 36 10 E	N 36 09 W	967	Nelson 3.
5	38 41 55.12	76 16 10.76	S 79 09 E	N 79 08 W	3,716	Roys.
			N 21 22 W	S 21 23 E	349	Nelson 3.
			S 77 08 W	N 77 06 E	5,104	Bar.

LONG POINT WOODS.

(*Broad Creek—Chart No. 34.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 41 44.94	76 15 29.76	S 82 06 E	N 82 05 W	2,591	Roys.
			N 41 17 E	S 41 17 W	2,732	Peary.
			N 61 05 W	S 61 06 E	1,383	Nelson 3.
2	38 42 29.78	76 16 05.00	S 61 53 E	N 61 52 W	3,965	Roys.
			N 78 48 E	S 78 49 W	2,786	Peary.
			N 16 07 W	S 16 07 E	1,130	Annette.
3	38 42 57.80	76 16 04.68	S 9 09 W	N 9 09 E	1,811	Nelson 3.
			N 81 55 E	S 81 56 W	2,633	Cook.
			N 2 20 W	S 2 20 E	1,140	Myrtle.
4	38 42 38.10	76 15 41.50	N 62 35 E	S 62 35 W	2,247	Cook.
			N 49 15 W	S 49 16 E	1,234	Annette.
			S 38 42 W	N 38 42 E	1,440	Nelson 3.
5	38 41 54.64	76 15 07.08	S 70 51 E	N 70 50 W	2,082	Roys.
			N 34 52 E	S 34 53 W	2,104	Peary.
			N 79 19 W	S 79 20 E	1,843	Nelson 3.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

GREAT BAR.

(Broad Creek—Chart No. 34.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 42 16.56	76 14 46.24	S 44 53 E	N 44 52 W	2,007	Roys.
			N 33 28 E	S 33 28 W	1,183	Peary.
			N 57 24 W	S 57 25 E	2,842	Annette.
2	38 42 38.10	76 15 41.50	N 62 35 E	S 62 35 W	2,247	Cook.
			N 49 15 W	S 49 16 E	1,234	Annette.
			S 38 42 W	N 38 42 E	1,440	Nelson 3.
3	38 43 23.66	76 14 58.42	N 27 22 W	S 27 23 E	1,547	Coal.
			N 81 35 W	S 81 36 E	1,816	Myrtle.
			S 70 34 W	N 70 33 E	2,198	Annette.
4	38 43 26.45	76 14 27.40	N 50 06 W	S 50 06 E	1,996	Coal.
			N 86 15 W	S 86 16 E	2,621	Myrtle.
			S 46 04 W	N 46 03 E	3,970	Nelson 3.
5	38 42 40.56	76 14 45.00	S 31 48 E	N 31 47 W	2,625	Roys.
			N 74 00 E	S 74 00 W	645	Peary.
			N 27 48 E	S 27 48 W	1,076	Cook.
6	38 42 25.02	76 14 37.76	S 54 40 E	N 54 39 W	1,908	Irish.
			N 31 24 E	S 31 24 W	822	Peary.
			N 64 33 W	S 64 34 E	2,900	Annette.

BROWN.

(Broad Creek—Chart No. 34.)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 43 06.34	76 15 50.75	N 25 59 W	S 25 59 E	945	Myrtle.
			S 77 59 W	N 77 58 E	705	Annette.
			S 17 32 W	N 17 32 E	2,177	Nelson 3.
2	38 43 21.80	76 16 15.06	S 46 06 E	N 46 04 W	5,223	Roys.
			S 81 21 E	N 81 20 W	2,914	Cook.
			N 61 28 E	S 61 30 W	3,449	Ross.
3	38 43 57.80	76 15 12.66	S 36 43 E	N 36 43 W	2,061	Cook.
			N 72 35 E	S 72 36 W	1,448	Ross.
			N 23 04 E	S 23 04 W	2,122	Bald.
4	38 43 37.40	76 15 17.94	N 12 08 W	S 12 08 E	932	Coal.
			S 81 15 W	N 81 14 E	1,296	Myrtle.
			S 52 31 W	N 52 30 E	1,962	Annette.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

DEEP NECK.

(*Broad Creek—Chart No. 34.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 43 23.66	76 14 58.42	N 27 22 W	S 27 23 E	1,547	Coal.
			N 81 35 W	S 81 36 E	1,816	Myrtle.
			S 70 34 W	N 70 33 E	2,198	Annette.
2	38 43 37.40	76 15 17.94	N 12 08 W	S 12 08 E	932	Coal.
			S 81 15 W	N 81 14 E	1,296	Myrtle.
			S 52 31 W	N 52 30 E	1,962	Annette.
3	38 43 57.80	76 15 12.66	S 36 43 E	N 36 43 W	2,061	Cook.
			N 72 35 E	S 72 36 W	1,448	Ross.
			N 23 04 E	S 23 04 W	2,122	Bald.
4	38 44 31.00	76 14 56.40	S 54 14 E	N 54 13 W	1,173	Ross.
			N 25 46 E	S 25 46 W	925	Bald.
			N 35 55 W	S 35 55 E	1,063	Skinner.
5	38 44 40.66	76 14 31.02	N 62 05 E	S 62 06 W	1,190	Willey.
			N 27 54 W	S 27 54 E	573	Bald.
			S 78 55 W	N 78 54 E	1,540	Tobe.
6	38 44 11.72	76 14 28.66	N 32 51 E	S 32 51 W	1,825	Willey.
			N 12 34 W	S 12 34 E	1,519	Bald.
			N 66 38 W	S 66 39 E	1,715	Tobe.
7	38 43 26.45	76 14 27.40	N 50 06 W	S 50 06 E	1,996	Coal.
			N 86 15 W	S 86 16 E	2,621	Myrtle.
			S 46 04 W	N 46 03 E	3,970	Nelson 3.

MULBERRY POINT.

(*Broad Creek—Chart No. 34.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 44 31.00	76 14 56.40	S 54 14 E	N 54 13 W	1,173	Ross.
			N 25 46 E	S 25 46 W	925	Bald.
			N 35 55 W	S 35 55 E	1,063	Skinner.
2	38 44 45.90	76 15 25.00	S 76 30 W	N 76 30 E	911	Fairbanks.
			S 10 16 W	N 10 16 E	480	Tobe.
			S 55 10 E	N 55 09 W	2,081	Ross.
3	38 44 54.54	76 15 23.72	S 61 16 W	N 61 16 E	1,048	Fairbanks.
			S 8 53 W	N 8 53 E	773	Tobe.
			S 48 30 E	N 48 30 W	2,235	Ross.
4	38 44 47.98	76 14 38.43	S 67 34 W	N 67 34 E	1,424	Tobe.
			S 20 47 E	N 20 47 W	1,346	Ross.
			S 57 13 E	N 57 12 W	1,591	Cedar.
5	38 44 40.66	76 14 31.02	N 62 05 E	S 62 06 W	1,190	Willey.
			N 27 54 W	S 27 54 E	573	Bald.
			S 78 55 W	N 78 54 E	1,540	Tobe.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

BROAD CREEK MIDDLEGROUND.

(*Broad Creek—Chart No. 34.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 44 11.72	76 14 28.66	N 32 51 E	S 32 51 W	1,825	Willey.
			N 12 34 W	S 12 34 E	1,519	Bald.
			N 66 38 W	S 66 39 E	1,715	Tobe.
2	38 44 40.66	76 14 31.02	N 62 05 E	S 62 06 W	1,190	Willey.
			N 27 54 W	S 27 54 E	573	Bald.
			S 78 55 W	N 78 54 E	1,540	Tobe.
3	38 44 46.36	76 13 55.44	S 28 39 W	N 28 38 E	1,372	Ross.
			S 14 05 E	N 14 05 W	832	Cedar.
			S 74 22 E	N 74 21 W	1,822	Spencer.
4	38 44 22.42	76 13 47.77	N 4 24 W	S 4 23 E	1,177	Willey.
			N 51 30 W	S 51 30 E	1,802	Bald.
			S 65 14 W	N 65 14 E	947	Ross.

WELL POINT.

(*Broad Creek—Chart No. 34.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 44 31.88	76 15 28.24	S 68 15 E	N 68 14 W	1,931	Ross.
			N 14 39 E	S 14 39 W	860	Skinner.
			N 26 21 W	S 26 21 E	734	Pine.
2	38 44 43.80	76 15 36.14	S 12 05 W	N 12 05 E	571	Wire.
			S 27 26 E	N 27 26 W	453	Tobe.
			N 44 47 E	S 44 47 W	605	Skinner.
3	38 44 47.90	76 15 38.16	S 5 25 W	N 5 25 E	699	Wire.
			S 25 52 E	N 25 51 W	600	Tobe.
			N 58 44 E	S 58 44 W	560	Skinner.
4	38 45 02.62	76 15 35.10	S 9 55 E	N 9 55 W	1,052	Tobe.
			S 62 44 E	N 62 44 W	448	Skinner.
			N 38 00 E	S 38 00 W	713	Cabin.
5	38 44 35.80	76 15 24.82	N 59 48 E	S 59 49 W	1,334	Bald.
			N 10 18 E	S 10 18 W	711	Skinner.
			N 38 22 W	S 38 22 E	670	Pine.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

POMPES.

(*Broad Creek—Chart No. 34.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 44 37.46	76 15 57.38	S 37 56 W	N 37 56 E	518	Blanco.
			S 52 05 E	N 52 05 W	560	Wire.
			S 76 16 E	N 76 15 W	793	Tobe.
2	38 44 44.24	76 15 53.42	S 33 35 W	N 33 34 E	764	Blanco.
			S 30 29 E	N 30 29 W	665	Wire.
			S 57 55 E	N 57 55 W	785	Tobe.
3	38 44 47.90	76 15 38.16	S 5 25 W	N 5 25 E	699	Wire.
			S 25 52 E	N 25 51 W	600	Tobe.
			N 58 44 E	S 58 44 W	560	Skinner.
4	38 44 43.80	76 15 36.14	S 12 05 W	N 12 05 E	571	Wire.
			S 27 26 E	N 27 26 W	453	Tobe.
			N 44 47 E	S 44 47 W	605	Skinner.

COOPERS POINT.

(*Broad Creek—Chart No. 34.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 44 24.64	76 16 06.39	N 82 36 E	S 82 36 W	686	Wire.
			N 22 24 E	S 22 24 W	546	Fairbanks.
			N 49 46 W	S 49 46 E	673	Caulk.
2	38 44 36.58	76 16 24.00	S 59 27 W	N 59 27 E	552	Ned.
			S 45 28 E	N 45 27 W	540	Blanco.
			N 81 24 E	S 81 24 W	681	Fairbanks.
3	38 44 42.40	76 16 12.09	S 58 53 W	N 58 53 E	923	Ned.
			S 6 58 E	N 6 58 W	580	Blanco.
			S 58 24 E	N 58 24 W	974	Wire.
4	38 44 39.60	76 16 04.04	S 69 07 W	N 69 07 E	1,073	Ned.
			S 16 30 W	N 16 30 E	501	Blanco.
			S 56 01 E	N 56 01 W	745	Wire.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

JUDYS POINT.

(*Broad Creek—Chart No. 34.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 44 28.26	76 16 38.26	S 82 39 E	N 82 39 W	768	Blanco.
			S 88 44 E	N 88 43 W	1,521	Wire.
			N 46 23 E	S 46 23 W	453	Caulk.
2	38 44 29.01	76 16 48.78	S 81 58 E	N 81 58 W	185	Ned.
			S 83 14 E	N 83 13 W	1,047	Blanco.
			N 64 38 E	S 64 38 W	670	Caulk.
3	38 44 37.06	76 16 46.79	S 23 05 E	N 23 05 W	323	Ned.
			S 68 11 E	N 68 11 W	1,063	Blanco.
			N 88 22 E	S 88 22 W	553	Caulk.
4	38 44 35.92	76 16 36.46	S 29 32 W	N 29 32 E	297	Ned.
			S 63 28 E	N 63 28 W	798	Blanco.
			N 79 03 E	S 79 03 W	285	Caulk.

BRUSHY POINT.

(*Broad Creek—Chart No. 34.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 45 02.62	76 15 35.10	S 9 55 E	N 9 55 W	1,052	Tobe.
			S 62 44 E	N 62 44 W	448	Skinner.
			N 38 00 E	S 38 00 W	713	Cabin.
2	38 45 03.90	76 15 42.63	S 19 23 E	N 19 23 W	1,145	Tobe.
			S 67 25 E	N 67 24 W	647	Skinner.
			N 50 53 E	S 50 53 W	822	Cabin.
3	38 45 12.80	76 15 36.64	S 9 08 E	N 9 08 W	1,398	Tobe.
			S 38 41 E	N 38 40 W	702	Skinner.
			N 65 32 E	S 65 32 W	527	Cabin.
4	38 45 14.68	76 15 28.24	S 22 32 W	N 22 32 E	851	Pine.
			S 19 33 E	N 19 33 W	650	Skinner.
			N 58 57 E	S 58 58 W	301	Cabin.

WILLEYS ISLAND FLATS.

(*Broad Creek—Chart No. 34.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 44 46.36	76 13 55.44	S 28 39 W	N 28 38 E	1,372	Ross.
			S 14 05 E	N 14 05 W	832	Cedar
			S 74 22 E	N 74 21 W	1,822	Spencer.
2	38 45 04.60	76 14 27.20	S 75 17 E	N 75 17 W	983	Willey.
			N 57 53 E	S 57 53 W	1,005	Ray.
			N 17 20 E	S 17 20 W	1,445	Grave.
3	38 45 18.92	76 14 25.74	S 51 14 E	N 51 14 W	1,170	Willey.
			N 88 38 E	S 88 39 W	814	Ray.
			N 23 37 E	S 23 37 W	978	Grave.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

WILLEYS ISLAND FLATS—Continued.

(*Broad Creek—Chart No. 34*)—Continued.

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
4	38 45 19.58	76 14 38.14	S 58 40 E	N 58 39 W	1,452	Willey.
			N 88 32 E	S 88 32 W	1,141	Ray.
			N 39 27 E	S 39 27 W	1,132	Grave.
5	38 45 34.03	76 14 32.14	S 5 29 E	N 5 29 W	798	Rose.
			S 64 59 E	N 64 59 W	1,084	Ray.
			N 55 26 E	S 55 26 W	681	Grave.
6	38 45 40.86	76 14 39.10	N 78 08 E	S 78 08 W	761	Grave.
			N 30 24 E	S 30 24 W	589	Royal.
			N 33 48 W	S 33 48 E	1,001	Mars.
7	38 45 54.63	76 14 37.10	N 58 55 W	S 58 55 E	712	Mars.
			S 65 37 W	N 65 37 E	524	Bengal.
			S 10 41 E	N 10 41 W	706	Gram.
8	38 45 45.50	76 14 10.90	N 51 44 W	S 51 44 E	569	Royal.
			S 55 26 W	N 55 26 E	681	Gram.
			S 26 29 E	N 26 29 W	944	Ray.
9	38 45 14.38	76 13 58.24	N 53 29 W	S 53 30 E	1,113	Gram.
			S 80 51 W	N 80 51 E	827	Rose.
			S 15 10 W	N 15 09 E	2,227	Ross.

HOLLAND POINT.

(*Broad Creek—Chart No. 34.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 45 49.42	76 14 52.34	N 71 15 E	S 71 16 W	684	Royal.
			N 20 53 W	S 20 53 E	582	Mars.
			N 51 23 W	S 51 24 E	1,115	Woodill.
2	38 45 54.52	76 15 12.46	N 87 40 E	S 87 41 W	1,180	Royal.
			N 41 06 E	S 41 06 W	492	Mars.
			N 33 01 W	S 33 02 E	626	Woodill.
3	38 46 10.07	76 15 25.37	S 23 46 E	N 23 46 W	575	Eastman.
			S 77 03 E	N 77 03 W	682	Mars.
			N 22 52 E	S 22 53 W	616	Venus.
4	38 46 24.96	76 15 24.56	S 44 29 E	N 44 29 W	919	Mars.
			N 73 27 E	S 73 27 W	227	Venus.
			N 2 06 W	S 2 06 E	949	Willis.
5	38 46 28.39	76 15 33.69	S 19 35 E	N 19 35 W	656	Woodill.
			S 83 42 E	N 83 41 W	461	Venus.
			N 66 00 E	S 66 00 W	428	Neptune.
6	38 46 32.30	76 15 24.60	N 44 40 W	S 44 40 E	605	Marion.
			S 61 13 W	N 61 13 E	273	Delta.
			S 1 33 W	N 1 33 E	750	Woodill.
7	38 46 05.53	76 15 00.19	S 49 14 W	N 49 14 E	572	Eastman.
			S 12 43 E	N 12 43 W	599	Bengal.
			S 69 17 E	N 69 16 W	914	Royal.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

HARRISON.

(*Broad Creek—Chart No. 34.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 46 41.52	76 15 34.40	S 2 25 E	N 2 25 W	443	Delta.
			S 56 39 E	N 56 39 W	489	Neptune.
			N 29 58 E	S 29 58 W	451	Willis.
2	38 46 47.08	76 15 30.33	S 75 58 W	N 75 57 E	282	Marion.
			S 33 26 E	N 33 26 W	548	Neptune.
			N 30 06 E	S 30 06 W	234	Willis.
3	38 46 41.62	76 15 25.40	N 74 01 W	S 74 01 E	420	Marion.
			S 26 08 W	N 26 08 E	496	Delta.
			S 32 10 E	N 32 10 W	322	Neptune.

CEDAR POINT.

(*Broad Creek—Chart No. 34.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 44 15.78	76 13 22.37	S 69 00 E	N 69 00 W	1,417	Marsh.
			N 58 29 E	S 58 29 W	1,035	Spencer.
			N 01 46 W	S 01 46 E	1,524	Hopkins.
2	38 44 22.42	76 13 47.77	N 4 24 W	S 4 23 E	1,177	Willey.
			N 51 30 W	S 51 30 E	1,802	Bald.
			S 65 14 W	N 65 14 E	947	Ross.
3	38 44 46.36	76 13 55.44	S 28 39 W	N 28 38 E	1,372	Ross.
			S 14 05 E	N 14 05 W	852	Cedar.
			S 74 22 E	N 74 21 W	1,822	Spencer.
4	38 44 19.25	76 12 54.44	S 43 09 E	N 43 08 W	856	Marsh.
			N 18 44 E	S 18 44 W	447	Spencer.
			N 29 09 W	S 29 10 E	1,611	Hopkins.

DRUM POINT.

(*Broad Creek—Chart No. 34.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 44 19.25	76 12 54.44	S 43 09 E	N 43 08 W	856	Marsh.
			N 18 44 E	S 18 44 W	447	Spencer.
			N 29 09 W	S 29 10 E	1,611	Hopkins.
2	38 44 46.36	76 13 55.44	S 28 39 W	N 28 38 E	1,372	Ross.
			S 14 05 E	N 14 05 W	832	Cedar.
			S 74 22 E	N 74 21 W	1,822	Spencer.
3	38 44 53.66	76 13 09.80	N 83 47 W	S 83 47 E	1,099	Willey.
			S 43 35 W	N 43 35 E	1,454	Cedar.
			S 29 03 E	N 29 02 W	2,042	Marsh.
	Thence from corner No. 3 along the mean low-water line of the shore to corner No. 4, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
4	38 44 31.81	76 12 49.00	N 43 22 W	S 43 22 E	1,352	Hopkins.
			S 78 28 W	N 78 28 E	1,585	Cedar.
			S 22 51 E	N 22 51 W	1,137	Marsh.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

JOE HARRIS FLATS.

(*Broad Creek—Chart No. 34.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 43 50.78	76 12 49.30	N 53 18 E	S 53 19 W	561	Marsh.
			N 0 20 E	S 0 20 W	1,386	Spencer.
			N 21 15 W	S 21 15 E	2,539	Hopkins.
2	38 44 00.20	76 13 02.34	N 88 44 E	S 88 44 W	795	Marsh.
			N 18 17 E	S 18 18 W	1,123	Spencer.
			N 15 42 W	S 15 42 E	2,128	Hopkins.
3	38 44 19.25	76 12 54.44	S 43 09 E	N 43 08 W	856	Marsh.
			N 18 44 E	S 18 44 W	447	Spencer.
			N 29 09 W	S 29 10 E	1,611	Hopkins.
4	38 44 00.72	76 12 32.27	N 66 24 E	S 66 24 W	932	Clark.
			N 24 13 E	S 24 13 W	749	Marshall.
			S 22 51 E	N 22 51 W	1,137	Spencer.

Thence from corner No. 4 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

PIN CUSHION.

(*Broad Creek—Chart No. 34.*

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 43 58.18	76 12 14.41	N 39 45 E	S 39 45 W	596	Clark.
			N 12 04 W	S 12 05 E	786	Marshall.
			N 38 51 W	S 38 52 E	1,457	Spencer.
2	38 44 17.84	76 12 30.00	N 46 48 W	S 46 49 E	688	Spencer.
			S 5 56 W	N 5 56 E	580	Marsh.
			S 29 12 E	N 29 12 W	974	Holly.
3	38 44 20.18	76 12 28.20	N 54 29 W	S 54 29 E	675	Spencer.
			S 9 18 W	N 9 18 E	665	Marsh.
			S 24 43 E	N 24 43 W	1,024	Holly.
4	38 44 08.74	76 12 04.52	N 56 29 W	S 56 30 E	1,409	Spencer.
			S 69 45 W	N 69 45 E	781	Marsh.
			S 19 58 W	N 19 58 E	579	Holly.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

WILLEYS ISLAND.

(*Broad Creek—Chart No. 34.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 44 56.38	76 13 44.48	S 60 31 E	N 60 30 W	1,684	Spencer.
			N 73 57 E	S 73 57 W	559	Hopkins.
			N 2 54 E	S 2 54 W	864	Judge.
2	38 45 11.68	76 13 45.60	S 57 27 E	N 57 27 W	671	Hopkins.
			N 61 30 E	S 61 30 W	534	Taft.
			N 1 35 E	S 1 35 W	1,129	Harper.
3	38 45 21.40	76 13 37.45	S 27 00 E	N 27 00 W	773	Hopkins.
			S 73 55 E	N 73 55 W	264	Taft.
			N 12 57 W	S 12 57 E	821	Harper.
4	38 45 26.42	76 13 46.56	S 34 35 E	N 34 34 W	1,043	Hopkins.
			S 63 52 E	N 63 52 W	550	Taft.
			N 5 07 E	S 5 07 W	634	Harper.
5	38 45 36.14	76 13 34.96	N 69 17 W	S 69 18 E	621	Thelma.
			S 23 29 W	N 23 29 E	521	Judge.
			S 18 15 E	N 18 15 W	600	Taft.
6	38 45 33.40	76 13 29.96	N 66 22 W	S 66 22 E	778	Thelma.
			S 41 19 W	N 41 19 E	514	Judge.
			S 6 41 E	N 6 41 W	481	Taft.
7	38 44 56.96	76 13 33.60	N 16 06 W	S 16 06 E	878	Judge.
			N 89 03 W	S 89 03 E	464	Willey.
			S 17 49 W	N 17 49 E	1,224	Cedar.

FOX.

(*Broad Creek—Chart No. 34.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 45 57.50	76 13 42.78	S 5 56 W	N 5 56 E	419	Harper.
			N 66 25 E	S 66 25 W	226	Ansley.
			N 14 13 E	S 14 13 W	553	Beverly.
2	38 46 04.16	76 13 42.68	S 4 06 W	N 4 06 E	643	Harper.
			S 56 52 E	N 56 52 W	245	Ansley.
			N 48 23 E	S 48 23 W	504	Samuel.
3	38 46 08.04	76 13 36.80	S 46 30 W	N 46 30 E	381	Elmore.
			S 10 40 E	N 10 40 W	269	Ansley.
			N 47 23 E	S 47 23 W	302	Samuel.
4	38 46 05.96	76 13 31.08	N 14 28 E	S 14 28 W	283	Samuel.
			N 34 30 W	S 34 30 E	305	Beverly.
			S 65 49 W	N 65 49 E	468	Elmore.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

ROYSTON.

(Outer Choptank River—Chart No. 34.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 40 08.08	76 14 26.04	N 87 14 E	S 87 15 W	3,832	Benoni 2.
			N 16 51 E	S 16 52 W	3,041	Roys.
			N 36 21 W	S 36 22 E	4,884	Nelson 3.
2	38 41 12.32	76 15 33.00	N 74 19 E	S 74 20 W	2,754	Roys.
			N 32 28 W	S 32 28 E	2,096	Nelson 3.
			N 87 04 W	S 87 06 E	5,982	Bar.
3	38 42 06.98	76 14 28.92	S 69 29 E	N 69 28 W	1,413	Irish.
			N 8 27 E	S 8 27 W	1,324	Peary.
			S 88 29 W	N 88 28 E	2,819	Nelson 3.
4	38 42 05.74	76 14 09.20	S 89 26 W	N 89 24 E	3,340	Nelson 3.
			S 22 28 E	N 22 27 W	1,144	Roys.
			S 60 30 E	N 60 30 W	921	Irish.
5	38 41 48.26	76 13 52.96	N 81 36 W	S 81 38 E	3,810	Nelson 3.
			S 00 56 E	N 00 56 W	467	Roys.
			N 69 53 E	S 69 54 W	397	Irish.
6	38 41 39.16	76 13 56.66	N 46 41 E	S 46 41 W	646	Irish.
			N 16 18 W	S 16 19 E	2,342	Peary.
			N 76 46 W	S 76 48 E	3,771	Nelson 3.
7	38 40 44.14	76 13 52.40	S 70 41 E	N 70 39 W	3,113	Benoni 2.
			N 00 14 W	S 00 14 E	1,694	Roys.
			N 54 18 W	S 54 20 E	4,659	Nelson 3.

IRISH CREEK.

(Outer Choptank River—Chart No. 34.)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 39 44.96	76 13 11.10	S 76 23 E	N 76 23 W	3,412	Choptank River Light.
			N 62 23 E	S 62 23 W	2,083	Benoni 2.
			N 16 35 W	S 16 35 E	3,851	Roys.
2	38 40 26.10	76 13 50.38	S 81 41 E	N 81 40 W	2,916	Benoni 2.
			N 1 30 W	S 1 30 E	2,304	Roys.
			N 49 05 W	S 49 06 E	5,079	Nelson 3.
3	38 40 44.14	76 13 52.40	S 70 41 E	N 70 39 W	3,113	Benoni 2.
			N 00 14 W	S 00 14 E	1,694	Roys.
			N 54 18 W	S 54 20 E	4,659	Nelson 3.
4	38 41 16.80	76 13 21.94	N 11 24 E	S 11 24 W	1,142	Creek.
			N 53 51 W	S 53 51 E	1,006	Roys.
			N 70 36 W	S 70 37 E	4,865	Nelson 3.
5	38 41 52.04	76 13 16.44	N 24 04 E	S 24 05 W	772	Ila.
			N 89 09 W	S 89 09 E	593	Irish.
			S 58 09 W	N 58 09 E	1,128	Roys.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

IRISH CREEK—Continued.

(*Outer Choptank River—Chart No. 34*)—Continued.

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
6	38 41 19.58	76 13 04.64	N 12 43 W	S 12 43 E	1,051	Creek.
			N 21 18 W	S 21 18 E	2,003	Pont.
			N 68 31 W	S 68 31 E	1,365	Roys.
7	38 41 00.00	76 13 03.46	N 8 51 W	S 8 52 E	1,706	Creek.
			N 16 43 W	S 16 43 E	2,638	Pont.
			N 48 16 W	S 48 17 E	1,743	Roys.
8	38 40 41.02	76 12 44.32	S 50 55 E	N 50 54 W	1,467	Benoni 2.
			N 18 17 W	S 18 17 E	2,450	Creek.
			N 45 06 W	S 45 07 E	2,550	Roys.
9	38 40 18.30	76 12 52.02	S 55 48 E	N 55 47 W	3,403	Choptank River Light.
			S 83 16 E	N 83 15 W	1,352	Benoni 2.
			N 31 59 W	S 32 00 E	3,026	Roys.

CHOPTANK LUMPS.

(*Outer Choptank River—Charts Nos. 34 and 37.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 39 08.00	76 13 46.22	N 83 52 E	S 83 54 W	4,273	Choptank River Light.
			N 51 26 E	S 51 27 W	3,549	Benoni 2.
			N 1 59 W	S 1 59 E	4,940	Roys.
	Thence along county boundary as delineated on Charts Nos. 34 and 37 to corner No. 2.					
2	38 39 58.32	76 15 41.88	N 41 38 E	S 41 39 W	4,344	Roys.
			N 11 48 W	S 11 48 E	4,356	Nelson 3.
			N 63 59 W	S 64 01 E	6,387	Bar.
3	38 39 43.30	76 13 45.60	S 80 10 E	N 80 08 W	4,295	Choptank River Light.
			N 69 41 E	S 69 42 W	2,941	Benoni 2.
			N 2 51 W	S 2 51 E	3,751	Roys.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

BENONI.

(Outer Choptank River—Charts Nos. 34 and 37.)

Corner of bar	Latitude	Longitude	True bearing: Forward	True bearing: Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 38 48.40	76 11 45.22	S 49 58 E	N 49 57 W	3,479	Castle.
			N 43 09 E	S 43 10 W	1,533	Choptank River Light.
			N 8 24 W	S 8 24 E	2,905	Benoni 2.
	Thence along county boundary as delineated on chart No. 37 to corner No. 2.					
2	38 39 05.04	76 13 38.98	S 68 56 W	N 68 54 E	6,512	Chef.
			S 16 26 W	N 16 25 E	2,764	Dot.
			N 82 11 E	S 82 13 W	4,094	Choptank River Light.
3	38 39 44.96	76 13 11.10	S 76 23 E	N 76 23 W	3,412	Choptank River Light.
			N 62 23 E	S 62 23 W	2,083	Benoni 2.
			N 16 35 W	S 16 35 E	3,851	Roys.
4	38 40 18.30	76 12 52.02	S 55 48 E	N 55 47 W	3,403	Choptank River Light.
			S 83 16 E	N 83 15 W	1,352	Benoni 2.
			N 31 59 W	S 32 00 E	3,026	Roys.
5	38 39 45.15	76 12 00.66	S 61 23 E	N 61 22 W	1,660	Choptank River Light.
			N 17 40 E	S 17 40 W	3,275	Mutton.
			N 00 57 W	S 00 57 E	959	Benoni 2.

LIGHTHOUSE.

(Outer Choptank River—Charts Nos. 34, 35, and 37.)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 38 48.40	76 11 45.22	S 49 58 E	N 49 57 W	3,479	Castle.
			N 43 09 E	S 43 10 W	1,533	Choptank River Light.
			N 8 24 W	S 8 24 E	2,905	Benoni 2.
2	38 39 45.15	76 12 00.66	S 61 23 E	N 61 22 W	1,660	Choptank River Light.
			N 17 40 E	S 17 40 W	3,275	Mutton.
			N 0 57 W	S 0 57 E	959	Benoni 2.
3	38 39 42.88	76 10 50.00	S 80 11 E	N 80 11 W	2,403	Landeye.
			N 36 36 E	S 36 36 W	1,261	Boone.
			N 61 12 W	S 61 12 E	2,150	Benoni 2.
4	38 39 16.14	76 10 19.78	S 47 34 E	N 47 33 W	3,057	Chlora.
			N 72 34 E	S 72 35 W	1,645	Landeye.
			N 1 24 W	S 1 24 E	1,915	Boone.
5	38 38 48.64	76 11 18.98	S 73 27 E	N 73 25 W	3,986	Chlora.
			N 17 43 E	S 17 43 W	1 166	Choptank River Light.
			N 21 19 W	S 21 19 E	3,075	Benoni 2.
	Thence along county boundary as delineated on chart No. 37 to corner No. 1.					

BOUNDARIES OF NATURAL OYSTER BARS—continued.

BACK SHORE.

(Outer Choptank River—Charts Nos. 34, 35, and 37.)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 37 52.86	76 09 25.36	N 47 35 E	S 47 36 W	1,106	Chlora.
			N 2 15 E	S 2 15 W	3,304	Landeye.
			S 64 59 W	N 64 58 E	1,538	Large Water Tank.
	Thence along county boundary as delineated on charts Nos. 34 and 35 to corner No. 2.					
2	38 38 27.80	76 10 07.48	S 2 53 E	N 2 53 W	1,544	Castle.
			S 77 23 E	N 77 22 W	1,978	Chlora.
			N 30 22 E	S 30 22 W	2,461	Landeye.
3	38 39 16.14	76 10 19.78	S 47 34 E	N 47 33 W	3,057	Chlora.
			N 72 34 E	S 72 35 W	1,645	Landeye.
			N 1 24 W	S 1 24 E	1,915	Boone.
4	38 39 42.88	76 10 50.00	S 80 11 E	N 80 11 W	2,403	Landeye.
			N 36 36 E	S 36 36 W	1,261	Boone.
			N 61 12 W	S 61 12 E	2,150	Benoni 2.
5	38 40 04.36	76 10 09.62	N 47 36 W	S 47 36 E	428	Boone.
			N 83 59 W	S 84 00 E	2,968	Benoni 2.
			S 45 43 W	N 45 42 E	2,067	Choptank River Light.
	Thence from corner No. 5 along the mean low-water line of the shore to corner No. 6, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
6	38 39 39.52	76 09 43.38	N 41 52 W	S 41 53 E	1,512	Boone.
			S 74 26 W	N 74 25 E	2,256	Choptank River Light.
			S 8 03 W	N 8 02 E	4,000	Castle.
7	38 39 25.86	76 09 21.68	N 34 54 W	S 34 54 E	744	Enter.
			S 86 59 W	N 86 58 E	2,750	Choptank River Light.
			S 17 57 W	N 17 56 E	3,680	Castle.
	Thence from corner No. 7 along the mean low-water line of the shore to corner No. 8, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
8	38 38 14.98	76 08 54.49	N 57 03 W	S 57 04 E	4,131	Choptank River Light.
			S 59 05 W	N 59 04 E	2,160	Castle.
			S 10 18 E	N 10 18 W	3,944	Toot.

BACHELOR POINT.

(Entrance Tred Avon River—Charts Nos. 34 and 35.)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 39 42.88	76 10 50.00	S 80 11 E	N 80 11 W	2,403	Landeye.
			N 36 36 E	S 36 36 W	1,261	Boone.
			N 61 12 W	S 61 12 E	2,150	Benoni 2.
2	38 40 31.52	76 11 46.04	S 74 18 E	N 74 17 W	2,321	Boone.
			N 89 07 E	S 89 07 W	1,799	Bach.
			N 21 18 E	S 21 19 W	1,672	Mutton.
3	38 40 41.52	76 10 47.16	N 37 52 W	S 37 53 E	1,545	Mutton.
			S 64 19 W	N 64 19 E	2,174	Benoni 2.
			S 10 14 W	N 10 14 E	2,739	Choptank River Light.
4	38 40 11.94	76 10 33.64	S 26 25 W	N 26 25 E	1,897	Choptank River Light.
			N 84 09 E	S 84 09 W	320	Boone.
			N 9 29 W	S 9 29 E	699	Bach.
5	38 40 04.36	76 10 09.62	N 47 36 W	S 47 36 E	428	Boone.
			N 83 59 W	S 84 00 E	2,968	Benoni 2.
			S 45 43 W	N 45 42 E	2,067	Choptank River Light.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

FOX HOLE.

(*Tred Avon River—Chart No. 34.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 40 31.52	76 11 46.04	S 74 18 E	N 74 17 W	2,321	Boone.
			N 89 07 E	S 89 07 W	1,799	Bach.
			N 21 18 E	S 21 19 W	1,672	Mutton.
2	38 40 34.55	76 11 49.50	S 25 16 E	N 25 16 W	2,721	Choptank River Light.
			S 87 46 E	N 87 45 W	1,892	Bach.
			N 25 39 E	S 25 40 W	1,614	Mutton.
3	38 41 34.84	76 11 00.60	S 43 53 E	N 43 52 W	1,375	First.
			S 87 38 E	N 87 38 W	646	Riverview.
			N 13 43 E	S 13 43 W	1,208	Bellevue.
4	38 41 30.20	76 10 39.72	N 11 16 W	S 11 16 E	1,357	Bellevue.
			N 64 02 W	S 64 02 E	793	Tred.
			S 69 48 W	N 69 47 E	1,220	Mutton.
5	38 41 05.50	76 10 54.52	N 15 15 W	S 15 15 E	1,224	Tred.
			N 61 24 W	S 61 24 E	860	Mutton.
			S 45 14 W	N 45 13 E	2,485	Bedoni 2.

STONE CHURCH.

(*Tred Avon River—Charts Nos. 34 and 35.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 40 51.43	76 10 40.10	N 23 01 W	S 23 01 E	1,795	Tred.
			N 52 02 W	S 52 03 E	1,440	Mutton.
			S 59 16 W	N 59 15 E	2,497	Benoni 2.
2	38 41 30.20	76 10 39.72	N 11 16 W	S 11 16 E	1,357	Bellevue.
			N 64 02 W	S 64 02 E	793	Tred.
			S 69 48 W	N 69 47 E	1,220	Mutton.
3	38 41 14.64	76 10 30.56	N 15 17 W	S 15 17 E	1,924	Bellevue.
			N 85 45 W	S 85 45 E	1,391	Mutton.
			S 7 51 W	N 7 51 E	1,439	Bach.
4	38 40 52.62	76 10 27.52	N 32 40 W	S 32 41 E	1,918	Tred.
			N 60 03 W	S 60 04 E	1,694	Mutton.
			S 62 01 W	N 62 00 E	2,806	Benoni 2.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

TOWN POINT.

(*Tred Avon River—Chart No. 34.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 41 30.20	76 10 39.72	N 11 16 W	S 11 16 E	1,357	Bellevue.
			N 64 02 W	S 64 02 E	793	Tred.
			S 69 48 W	N 69 47 E	1,220	Mutton.
2	38 41 34.84	76 11 00.60	S 43 53 E	N 43 52 E	1,375	First.
			S 87 38 E	N 87 38 W	646	Riverview.
			N 13 43 E	S 13 43 W	1,208	Bellevue.
3	38 41 57.86	76 10 56.40	S 24 56 W	N 24 56 E	646	Tred.
			S 33 40 E	N 33 39 W	965	Riverview.
			N 23 50 E	S 23 50 W	435	Bellevue.
4	38 41 59.18	76 10 41.36	N 27 16 E	S 27 16 W	1,437	Tar.
			N 32 06 W	S 32 06 E	417	Bellevue.
			S 46 45 W	N 46 45 E	920	Tred.
5	38 41 40.68	76 10 37.32	N 16 11 E	S 16 11 W	1,979	Tar.
			N 18 35 W	S 18 35 E	1,031	Bellevue.
			S 89 33 W	N 89 33 E	776	Tred.

STEWART ISLAND.

(*Tred Avon River—Chart No. 34.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 41 39.80	76 10 14.42	N 1 35 W	S 1 34 E	1,931	Tar.
			N 42 50 W	S 42 51 E	1,374	Bellevue.
			N 89 01 W	S 89 02 E	1,382	Tred.
2	38 41 53.54	76 10 27.80	N 11 33 E	S 11 33 W	1,498	Tar.
			N 46 51 W	S 46 52 E	795	Bellevue.
			S 66 51 W	N 66 50 E	1,118	Tred.
3	38 42 11.24	76 10 15.34	N 1 56 W	S 1 56 E	872	Tar.
			S 86 39 W	N 86 38 E	911	Bellevue.
			S 52 38 W	N 52 37 E	1,708	Tred.
4	38 41 50.16	76 09 56.96	N 18 02 W	S 18 02 E	1,663	Tar.
			N 64 46 W	S 64 46 E	1,542	Bellevue.
			S 36 04 W	N 36 04 E	1,269	Weather Bureau Staff.
5	38 41 47.34	76 10 03.06	N 11 55 W	S 11 55 E	1,714	Tar.
			N 58 37 W	S 58 37 E	1,446	Bellevue.
			S 32 11 W	N 32 11 E	1,099	Weather Bureau Staff.
	Thence from corner No. 5 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					

BOUNDARIES OF NATURAL OYSTER BARS—continued.

GOOSE NECK.

(Tred Avon River—Chart No. 34.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 41 53.54	76 10 27.80	N 11 33 E	S 11 33 W	1,498	Tar.
			N 46 51 W	S 46 52 E	795	Bellevue.
			S 66 51 W	N 66 50 E	1,118	Tred.
2	38 42 09.66	76 10 43.56	S 09 14 E	N 09 14 W	1,216	Riverview.
			S 76 37 E	N 76 36 W	1,517	Town.
			N 37 47 E	S 37 47 W	1,169	Tar.
3	38 42 22.78	76 10 25.04	S 10 09 W	N 10 09 E	1,669	Riverview.
			S 51 11 E	N 51 10 W	1,266	Town.
			N 25 14 E	S 25 14 W	533	Tar.
4	38 42 27.00	76 10 35.42	S 00 38 W	N 00 38 E	1,786	Riverview.
			S 53 24 E	N 53 24 W	1,570	Town.
			N 55 55 E	S 55 55 W	606	Tar.
5	38 42 38.44	76 10 27.60	S 5 57 W	N 5 57 E	2,184	Riverview.
			S 38 34 E	N 38 34 W	1,691	Town.
			S 81 01 W	N 81 01 W	297	Tar.
6	38 42 32.28	76 10 00.40	S 59 41 W	N 59 40 E	1,511	Bellevue.
			S 16 45 E	N 16 45 W	1,164	Town.
			S 36 23 E	N 36 23 W	1,428	Mud.
7	38 42 11.24	76 10 15.34	N 1 56 W	S 1 56 E	872	Tar.
			S 86 39 W	N 86 38 E	911	Bellevue.
			S 52 38 W	N 52 37 E	1,708	Tred.

PECKS POINT.

(Tred Avon River—Chart No. 34.)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 41 50.16	76 09 56.96	N 18 02 W	S 18 02 E	1,663	Tar.
			N 64 46 W	S 64 46 E	1,542	Bellevue.
			S 36 04 W	N 36 04 E	1,269	Weather Bureau Staff.
2	38 42 11.24	76 10 15.34	N 1 56 W	S 1 56 E	872	Tar.
			S 86 39 W	N 86 38 E	911	Bellevue.
			S 52 38 W	N 52 37 E	1,708	Tred.
3	38 42 32.28	76 10 00.40	S 59 41 W	N 59 40 E	1,511	Bellevue.
			S 16 45 E	N 16 45 W	1,164	Town.
			S 36 23 E	N 36 23 W	1,428	Mud.
4	38 42 18.38	76 09 47.40	S 79 52 W	N 79 52 E	1,672	Bellevue.
			S 00 37 W	N 00 37 E	645	Town.
			S 36 33 E	N 36 33 W	848	Mud.
5	38 42 19.34	76 09 34.80	S 26 43 W	N 26 43 E	759	Town.
			S 13 27 E	N 13 27 W	734	Mud.
			S 53 53 E	N 53 52 W	1,575	Golds.
6	38 41 59.24	76 09 47.71	N 0 07 W	S 0 07 E	749	Peck.
			N 77 54 W	S 77 55 E	1,676	Bellevue.
			S 56 27 W	N 56 26 E	1,537	Riverview.

Thence from corner No. 6 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

MARES POINT.

(*Tred Avon River—Chart No. 34.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 41 59.38	76 09 33.54	S 78 21 E	N 78 21 W	1,265	Golds.
			N 43 29 E	S 43 29 W	852	Tall.
			N 26 48 W	S 26 48 E	834	Peck.
2	38 42 06.20	76 09 34.06	S 68 49 E	N 68 49 W	1,343	Golds.
			N 57 01 E	S 57 02 W	715	Tall.
			N 35 09 W	S 35 09 E	630	Peck.
3	38 42 15.28	76 09 12.56	S 35 52 W	N 35 52 E	712	Mud.
			S 40 51 E	N 40 51 W	1,047	Golds.
			S 76 41 E	N 76 40 W	1,132	Borough.
4	38 42 30.20	76 08 54.60	S 09 12 E	N 09 12 W	1,311	Golds.
			S 39 21 E	N 39 21 W	988	Borough.
			N 86 10 W	S 86 10 W	1,321	Layor.
	Thence from corner No. 4 along the mean low-water line of the shore to corner No. 5, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
5	38 42 39.38	76 09 00.22	S 35 49 E	N 35 49 W	1,323	Borough.
			N 80 12 E	S 80 12 W	825	Twin.
			N 45 05 E	S 45 05 W	1,039	Weave.
6	38 42 42.98	76 08 44.00	S 16 10 E	N 16 09 W	1,243	Borough.
			N 87 11 E	S 87 11 W	384	Twin.
			N 26 38 E	S 26 38 W	685	Weave.
7	38 42 29.82	76 08 32.40	N 28 30 W	S 28 30 E	1,518	Spin.
			N 68 01 W	S 68 01 E	756	Plain.
			S 16 23 W	N 16 23 E	1,335	Golds.
8	38 41 59.60	76 09 18.92	N 78 04 E	S 78 05 W	1,297	Borough.
			N 18 08 E	S 18 08 W	643	Tall.
			N 45 58 W	S 45 58 E	1,061	Peck.

LOUIS COVE.

(*Tred Avon River—Chart No. 34.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 41 44.84	76 08 57.82	N 42 53 E	S 42 54 W	1,045	Borough.
			N 17 53 W	S 17 53 E	1,165	Tall.
			N 46 54 W	S 46 55 E	1,808	Peck.
2	38 41 52.00	76 09 21.56	N 68 37 E	S 68 37 W	1,438	Borough.
			N 17 15 E	S 17 15 W	908	Tall.
			N 34 53 W	S 34 53 E	1,212	Peck.
3	38 41 59.60	76 09 18.92	N 78 04 E	S 78 05 W	1,297	Borough.
			N 18 08 E	S 18 08 W	643	Tall.
			N 45 58 W	S 45 58 E	1,061	Peck.
4	38 42 29.82	76 08 32.40	N 28 30 W	S 28 30 E	1,518	Spin.
			N 68 01 W	S 68 01 E	756	Plain.
			S 16 23 W	N 16 23 E	1,335	Golds.
5	38 42 17.79	76 08 21.60	N 29 12 E	S 29 13 W	1,369	Toe.
			N 13 30 W	S 13 30 E	893	Twin.
			N 55 04 W	S 55 05 E	1,203	Plain.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

BAMINGS COVE.

(Tred Avon River—Chart No. 34.)

Corner of bar	Latitude	Longitude	True bearing: Forward	True bearing: Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 42 29.10	76 08 12.06	N 27 05 E	S 27 05 W	914	Toe.
			N 43 24 W	S 43 24 E	670	Twin.
			N 76 04 W	S 76 04 E	1,275	Plain.
2	38 42 38.25	76 08 26.32	S 6 40 W	N 6 40 E	1,042	Borough.
			S 72 13 E	N 72 13 W	599	Layor.
			N 57 30 E	S 57 31 W	940	Toe.
3	38 42 54.24	76 08 13.62	S 16 10 W	N 16 10 E	1,639	Borough.
			S 18 02 E	N 18 02 W	760	Layor.
			S 74 14 E	N 74 14 W	863	Mistle.
4	38 42 48.86	76 08 00.52	S 76 49 W	N 76 48 E	786	Twin.
			S 11 36 W	N 11 36 E	552	Layor.
			S 83 45 E	N 83 45 W	487	Mistle.
5	38 42 33.25	76 08 06.42	N 21 37 E	S 21 37 W	725	Toe.
			N 60 21 W	S 60 21 E	702	Twin.
			S 36 44 W	N 36 44 E	1,082	Borough.

OLD HOUSE POINT.

(Tred Avon River—Chart No. 34.)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 42 34.73	76 07 48.46	N 12 20 E	S 12 20 W	827	Trippe.
			N 18 25 W	S 18 25 E	657	Toe.
			N 74 40 W	S 74 41 E	1,124	Twin.
2	38 42 48.86	76 08 00.52	S 76 49 W	N 76 48 E	786	Twin.
			S 11 36 W	N 11 36 E	552	Layor.
			S 83 45 E	N 83 45 W	487	Mistle.
3	38 42 58.40	76 07 47.76	S 27 27 W	N 27 27 E	972	Layor.
			S 21 25 E	N 21 25 W	402	Mistle.
			S 76 59 E	N 76 58 W	795	Venture.
4	38 42 56.28	76 07 38.36	S 77 44 W	N 77 44 E	486	Toe
			S 18 50 W	N 18 30 E	319	Mistle.
			S 78 26 E	N 78 26 W	536	Venture.
5	38 42 39.14	76 07 35.50	S 67 38 E	N 67 37 W	846	Deux.
			N 43 45 E	S 43 45 W	651	Venture.
			N 14 04 W	S 14 04 E	681	Trippe.
6	38 42 38.80	76 07 38.40	S 70 07 E	N 70 07 W	913	Deux.
			N 47 33 E	S 47 33 W	714	Venture.
			N 7 33 W	S 7 34 E	677	Trippe.
	Thence from corner No. 6 along the mean low water line of the shore to corner No. 7, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
7	38 42 47.29	76 07 42.20	N 1 43 E	S 1 43 W	385	Trippe.
			N 61 50 W	S 61 50 E	423	Toe.
			S 50 38 W	N 50 38 E	770	Layor.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

OLD HOUSE POINT—Continued.

(*Tred Avon River—Chart No. 34*)—Continued.

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
8	38 42 45.40	76 07 45.94	N 13 48 E	S 13 48 W	461	Trippe.
			N 46 07 W	S 46 07 E	381	Toe.
			S 49 28 W	N 49 28 E	653	Layor.
9	38 42 36.80	76 07 46.46	N 9 32 E	S 9 32 W	749	Trippe.
			N 25 12 W	S 25 12 E	611	Toe.
			S 74 27 W	N 74 27 E	501	Layor.

TRIPPE.

(*Tred Avon River—Chart No. 34.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 42 46.45	76 07 25.56	S 2 20 E	N 2 20 W	723	Crack.
			S 42 52 E	N 42 52 W	775	Deux.
			S 72 58 E	N 72 58 W	988	Cam.
2	38 42 52.98	76 07 25.60	S 1 22 E	N 1 22 W	943	Crack.
			S 33 26 E	N 33 26 W	945	Deux.
			S 61 29 E	N 61 28 W	1,067	Cam.
3	38 42 52.92	76 07 15.85	S 14 03 W	N 14 03 E	969	Crack.
			S 18 30 E	N 18 30 W	830	Deux.
			S 53 16 E	N 53 15 W	849	Cam.
4	38 42 46.78	76 07 15.85	S 17 47 W	N 17 47 E	770	Crack.
			S 24 25 E	N 24 25 W	636	Deux.
			S 66 09 E	N 66 09 W	744	Cam.

BAKERS COVE.

(*Tred Avon River—Chart No. 34.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 42 24.60	76 07 30.20	N 67 03 E	S 67 03 W	1,147	Cam.
			N 17 54 E	S 17 54 W	1,009	Venture.
			N 14 53 W	S 14 53 E	1,190	Trippe.
2	38 42 27.52	76 07 31.92	N 72 28 E	S 72 28 W	1,158	Cam.
			N 22 25 E	S 22 25 W	933	Venture.
			N 13 54 W	S 13 54 E	1,083	Trippe.
3	38 42 .00	76 07 09 12	N 28 12 E	S 28 12 W	640	Plow.
			N 24 27 W	S 24 28 E	596	Venture.
			N 68 21 W	S 68 21 E	940	Mistle.
4	38 42 30.34	76 07 06.10	N 15 45 E	S 15 46 W	819	Plow.
			N 23 03 W	S 23 04 E	834	Venture.
			N 59 01 W	S 59 01 E	1,112	Mistle.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

MARSHY.

(*Tred Avon River—Chart No. 34.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 42. 42. 98	76 08 44. 00	S 16 10 E	N 16 09 W	1,243	Borough.
			N 87 11 E	S 87 11 W	384	Twin.
			N 26 38 E	S 26 38 W	685	Weave.
2	38 43 00. 78	76 08 46. 58	S 37 50 E	N 37 50 W	736	Twin.
			N 88 15 E	S 88 15 W	375	Weave.
			N 2 25 E	S 2 25 W	911	Martin.
3	38 43 03. 12	76 08 58. 00	S 48 46 E	N 48 46 W	1,002	Twin.
			S 84 18 E	N 84 17 W	680	Weave.
			N 22 14 E	S 22 14 W	899	Martin.
4	38 43 11. 90	76 08 57. 40	S 37 38 E	N 37 38 W	1,207	Twin.
			S 61 08 E	N 61 07 W	752	Weave.
			N 31 10 E	S 31 10 W	626	Martin.
5	38 43 09. 80	76 08 37. 38	N 18 39 W	S 18 39 E	641	Martin.
			S 88 38 W	N 88 38 E	594	Spin.
			S 28 07 W	N 28 07 E	1,208	Plain.
6	38 42 52. 44	76 08 32. 56	N 15 34 W	S 15 34 E	1,238	Martin.
			N 51 35 W	S 51 35 E	920	Spin.
			S 55 26 W	N 55 26 E	845	Plain.
7	38 42 44. 64	76 08 36. 46	N 36 30 W	S 36 30 E	1,038	Spin.
			S 69 56 W	N 69 56 E	632	Plain.
			S 6 42 E	N 6 42 W	1,259	Borough.

FLATTY.

(*Tred Avon River—Chart No. 34.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 43 18. 50	76 08 20. 96	N 16 59 W	S 16 59 E	1,070	Neva.
			N 63 49 W	S 63 49 E	712	Martin.
			S 73 19 W	N 73 19 E	1,072	Spin.
2	38 43 18. 96	76 08 26. 54	N 9 18 W	S 9 18 E	1,023	Neva.
			N 58 46 W	S 58 46 E	574	Martin.
			S 69 50 W	N 69 49 E	937	Spin.
3	38 43 37. 76	76 08 23. 26	N 7 59 W	S 7 59 E	949	Robertson.
			N 33 58 W	S 33 58 E	451	Neva.
			S 59 48 W	N 59 48 E	668	Martin.
4	38 43 37. 22	76 08 17. 94	N 15 53 W	S 15 53 E	996	Robertson.
			N 45 02 W	S 45 02 E	554	Neva.
			S 66 07 W	N 66 07 E	786	Martin.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

OREM.

(*Tred Avon River—Chart No. 34.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 43 20.38	76 08 39.86	S 16 54 E	N 16 54 W	679	Weave.
			N 75 34 E	S 75 34 W	640	Hunter.
			N 11 01 E	S 11 01 W	978	Neva.
2	38 43 35.52	76 08 45.46	S 16 35 E	N 16 34 W	1,211	Weave.
			S 65 26 E	N 65 25 W	844	Hunter.
			N 71 40 E	S 71 41 W	1,119	Aye.
3	38 43 37.06	76 08 41.60	S 11 21 E	N 11 21 W	1,237	Weave.
			S 58 49 E	N 58 48 W	779	Hunter.
			N 72 39 E	S 72 39 W	1,008	Aye.
4	38 43 22.64	76 08 33.48	N 1 11 E	S 1 11 W	884	Neva.
			N 60 34 W	S 60 34 E	353	Martin.
			S 57 17 W	N 57 16 E	827	Spin.

DOUBLE MILLS.

(*Tred Avon River—Chart No. 34.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 43 40.22	76 08 20.35	N 19 57 E	S 19 58 W	901	Stretch.
			N 48 30 W	S 48 30 E	439	Neva.
			S 57 22 W	N 57 22 E	778	Martin.
2	38 43 43.28	76 08 40.15	S 45 41 E	N 45 41 W	877	Hunter.
			N 84 23 E	S 84 23 W	930	Aye.
			N 48 09 E	S 48 09 W	1,115	Stretch.
3	38 43 48.27	76 08 29.34	S 23 38 E	N 23 38 W	852	Hunter.
			S 83 07 E	N 83 06 W	643	Aye.
			N 43 26 E	S 43 26 W	793	Stretch.
4	38 44 04.00	76 08 23.56	S 8 12 E	N 8 12 W	1,325	Hunter.
			S 38 40 E	N 38 40 W	779	Aye.
			N 83 23 E	S 83 23 W	395	Stretch.
5	38 44 02.62	76 08 10.48	S 51 45 W	N 51 44 E	750	Neva.
			S 14 05 E	N 14 05 W	579	Aye.
			S 87 46 E	N 87 45 W	1,078	Wall.
6	38 44 05.04	76 08 06.64	S 51 40 W	N 51 39 E	880	Neva.
			S 3 30 E	N 3 30 W	643	Aye.
			S 82 46 E	N 82 46 W	983	Wall.
7	38 43 49.83	76 07 54.60	N 59 23 E	S 59 24 W	764	Wall.
			N 35 26 W	S 35 26 E	642	Stretch.
			N 59 04 W	S 59 04 E	1,037	Robertson.
8	38 43 51.61	76 08 07.14	N 71 36 E	S 71 36 W	1,042	Wall.
			N 5 05 W	S 5 05 E	465	Stretch.
			N 49 43 W	S 49 43 E	732	Robertson.
9	38 43 50.98	76 08 15.40	N 73 49 E	S 73 49 W	1,257	Wall.
			N 20 04 E	S 20 04 W	516	Stretch.
			N 34 31 W	S 34 31 E	599	Robertson.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

JOHNSTON.

(Tred Avon River—Chart No. 34.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 43 53.00	76 07 41.02	N 35 11 E	S 35 12 W	1,551	Camden.
			N 3 37 W	S 3 37 E	648	May.
			N 60 20 W	S 60 20 E	842	Stretch.
2	38 44 05.14	76 07 43.44	N 67 46 E	S 67 46 W	1,089	Blossom.
			N 5 31 E	S 5 31 W	239	May.
			N 89 24 W	S 89 24 E	667	Stretch.
3	38 44 13.09	76 07 32.32	S 43 29 W	N 43 29 E	1,260	Aye.
			S 9 58 E	N 9 58 W	401	Wall.
			N 78 35 E	S 78 36 W	729	Blossom
4	38 44 06.96	76 07 27.20	N 58 48 E	S 58 49 W	678	Blossom.
			N 3 51 E	S 3 51 W	575	Peebee.
			S 87 10 W	N 87 09 E	1,098	Stretch.

CAMDEN POINT.

(Tred Avon River—Chart No. 34.)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 44 16.20	76 07 14.46	N 21 37 E	S 21 37 W	522	Camden.
			N 48 40 W	S 48 40 E	397	Peebee.
			S 79 55 W	N 79 54 E	753	May.
2	38 44 17.27	76 07 20.14	N 37 19 E	S 37 19 W	564	Camden.
			N 33 13 W	S 33 13 E	270	Peebee.
			S 73 52 W	N 73 52 E	617	May.
3	38 44 36.25	76 07 13.58	N 24 00 W	S 24 00 E	652	Stab.
			S 63 17 W	N 63 17 E	143	Neck.
			S 19 04 E	N 19 04 W	674	Blossom.
4	38 44 35.32	76 07 08.40	N 32 40 W	S 32 40 E	745	Stab.
			S 82 56 W	N 82 56 E	267	Neck.
			S 07 50 E	N 07 50 W	611	Blossom.

WATERMELON POINT.

(Tred Avon River—Chart No. 34.)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 44 53.40	76 07 12.58	S 10 30 E	N 10 30 W	782	Camden.
			S 85 08 E	N 85 08 W	297	Gash.
			N 29 47 E	S 29 47 W	705	Melon.
2	38 44 53.76	76 07 17.54	S 19 18 E	N 19 18 W	828	Camden.
			S 85 00 E	N 85 00 W	430	Gash.
			N 38 44 E	S 38 44 W	770	Melon.
3	38 45 22.30	76 07 04.92	S 34 22 W	N 34 22 E	496	Water.
			S 22 15 E	N 22 15 W	392	Melon.
			N 73 00 E	S 73 00 W	666	Bateman.
4	38 45 19.90	76 07 01.18	S 49 03 W	N 49 02 E	502	Water.
			S 09 58 E	N 09 57 W	285	Melon.
			N 62 52 E	S 62 52 W	604	Bateman.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

HOPKINS.

(Island Creek—Charts Nos. 34 and 35.)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 39 25.86	76 09 21.68	N 34 54 W	S 34 54 E	744	Enter.
			S 86 59 W	N 86 58 E	2,750	Choptank River Light.
			S 17 57 W	N 17 56 E	3,680	Castle.
2	38 39 39.52	76 09 43.38	N 41 52 W	S 41 53 E	1,512	Boone.
			S 74 26 W	N 74 25 E	2,256	Choptank River Light.
			S 8 03 W	N 8 02 E	4,000	Castle.
	Thence from corner No. 2 along the mean low-water line of the shore to corner No. 3, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
3	38 39 43.22	76 09 32.62	S 37 26 E	N 37 25 W	530	Landeye.
			S 85 18 E	N 85 17 W	945	Berry.
			N 86 39 E	S 86 40 W	1,729	Jay.
4	38 39 35.08	76 09 09.60	N 59 26 E	S 59 26 W	387	Berry.
			N 46 58 E	S 46 58 W	1,147	Delahay.
			N 68 07 W	S 68 08 E	803	Enter.
	Thence from corner No. 4 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					

WILLIS.

(Island Creek—Charts No. 34 and 35.)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 39 47.13	76 09 04.78	S 36 53 W	N 36 52 E	691	Landeye.
			S 44 32 E	N 44 31 W	294	Berry.
			N 53 55 E	S 53 55 W	270	Straw.
2	38 39 48.80	76 09 19.60	S 2 07 W	N 2 07 E	609	Landeye.
			S 66 02 E	N 66 02 W	654	Berry.
			N 80 26 E	S 80 26 W	619	Straw.
3	38 39 52.46	76 09 18.72	S 3 35 W	N 3 35 E	734	Landeye.
			S 55 53 E	N 55 53 W	694	Berry.
			S 88 00 E	N 87 59 W	587	Straw.
	Thence from corner No. 3 along the mean low-water line of the shore to corner No. 4, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
4	38 39 51.36	76 09 03.92	S 32 10 W	N 32 10 E	821	Landeye.
			S 27 30 E	N 27 30 W	397	Berry.
			N 79 49 E	S 79 49 W	982	Jay.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

ISLAND CREEK.

(*Island Creek—Charts Nos. 34 and 35.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 39 34.20	76 08 45.72	N 38 41 E	S 38.41 W	1,219	Kent.
			N 14 19 E	S 14 19 W	839	Delahay.
			N 25 38 W	S 25 38 E	659	Straw.
2	38 39 51.85	76 08 56.52	S 76 17 W	N 76 17 E	1,123	Enter.
			S 1 56 W	N 1 56 E	369	Berry.
			S 76 08 E	N 76 08 W	794	Jay.
	Thence from corner No. 2 along the mean low water line of the shore to corner No. 3, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
3	38 40 01.02	76 08 45.80	S 23 35 W	N 23 35 E	739	Berry.
			S 44 19 E	N 44 18 W	698	Jay.
			S 76 15 E	N 76 14 W	1,051	Mean.
4	38 40 00.84	76 08 39.00	S 35 18 W	N 35 18 E	823	Berry.
			S 31 57 E	N 31 57 W	582	Jay.
			S 73 50 E	N 73 49 W	876	Mean.
	Thence from corner No. 4 along the mean low water line of the shore to corner No. 5, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
5	38 40 00.68	76 08 28.02	S 48 59 W	N 48 58 E	1,051	Berry.
			S 02 03 E	N 02 03 W	488	Jay.
			S 66 35 E	N 66 35 W	600	Mean.
6	38 40 02.45	76 08 21.56	S 52 13 W	N 52 13 E	1,184	Berry.
			S 15 39 W	N 15 39 E	570	Jay.
			S 51 52 E	N 51 52 W	482	Mean.
	Thence from corner No. 6 along the mean low water line of the shore to corner No. 7, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
7	38 40 06.18	76 08 12.61	S 18 39 E	N 18 39 W	447	Mean.
			N 89 13 E	S 89 13 W	471	Maslin.
			N 34 18 E	S 34 18 W	424	Harry.
8	38 40 01.04	76 08 02.30	N 03 40 W	S 03 40 E	525	Harry.
			N 83 08 W	S 83 08 E	388	Kent.
			S 52 57 W	N 52 57 E	830	Jay.
	Thence from corner No. 8 along the mean low water line of the shore to corner No. 9, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
9	38 39 53.70	76 08 02.25	N 24 46 E	S 24 46 W	470	Maslin.
			N 52 48 W	S 52 48 E	487	Kent.
			S 69 10 W	N 69 10 E	711	Jay.
10	38 39 46.72	76 08 04.80	N 15 17 W	S 15 17 E	241	Mean.
			N 31 09 W	S 31 09 E	619	Kent.
			S 88 21 W	N 88 21 E	597	Jay.
	Thence from corner No. 10 along the mean low water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					

BOUNDARIES OF NATURAL OYSTER BARS—continued.

MATTHEWS.

(*Island Creek—Charts Nos. 34 and 35.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 40 10.06	76 07 57.76	N 33 03 E	S 33 04 W	699	Charles.
			N 34 59 W	S 34 59 E	268	Harry.
			S 63 01 W	N 63 01 E	568	Kent.
2	38 40 11.20	76 07 59.18	N 37 25 E	S 27 25 W	689	Charles.
			N 32 39 W	S 32 39 E	214	Harry.
			S 57 42 W	N 57 42 E	554	Kent.
3	38 40 22.80	76 07 47.98	S 18 01 W	N 18 01 E	583	Maslin.
			S 53 52 E	N 53 52 W	358	Healey.
			N 66 43 E	S 66 43 W	650	Potato.
4	38 40 19.60	76 07 41.18	N 48 49 E	S 48 49 W	553	Potato.
			N 12 12 W	S 12 12 E	270	Charles.
			S 80 12 W	N 80 12 E	600	Harry.

Thence from corner No. 4 along the mean low water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.

OLD ORCHARD.

(*Miles River—Chart No. 34.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 46 44.98	76 12 09.46	S 40 29 E	N 40 29 W	540	Stony.
			S 78 19 E	N 78 18 W	2,200	Gibbs.
			N 29 02 W	S 29 02 E	2,206	Millwind.
2	38 47 09.58	76 12 34.28	N 20.42 W	S 20 42 E	1,175	Millwind.
			N 86 12 W	S 86 12 E	1,576	St. Michaels Water Tank.
			S 39 02 E	N 39 02 W	1,597	Stony.
3	38 47 13.60	76 12 26.40	N 32 54 W	S 32 54 E	1,147	Millwind.
			S 88 59 W	N 88 59 E	1,780	St. Michaels Water Tank.
			S 30 06 E	N 30 06 W	1,590	Stony.
4	38 46 50.94	76 11 53.28	S 7 08 W	N 7 08 E	617	Stony.
			S 69 31 E	N 69 31 W	1,855	Gibbs.
			N 2 35 E	S 2 35 W	2,085	Fair.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

GIBSONS FLATS.

(*Miles River—Chart No. 34*).

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 46 21.94	76 11 00.00	S 33 18 W	N 33 18 E	705	Maiden.
			S 71 49 E	N 71 49 W	1,015	Long.
			N 45 12 E	S 45 12 W	467	Gibbs.
2	38 46 53.50	76 11 46.12	S 20 50 W	N 20 50 E	747	Stony.
			S 64 36 E	N 64 35 W	1,715	Gibbs.
			N 10 37 E	S 10 37 W	1,746	Leeds.
3	38 47 02.96	76 12 00.00	N 26 13 E	S 26 13 W	1,557	Leeds.
			N 44 57 W	S 44 58 E	1,868	Millwind.
			S 5 40 E	N 5 40 W	1,023	Stony.
4	38 47 11.24	76 11 37.88	N 61 18 W	S 61 19 E	2,171	Millwind.
			S 20 26 W	N 20 26 E	1,383	Stony.
			S 44 56 E	N 44 56 W	1,884	Gibbs.
5	38 47 01.30	76 11 27.66	N 57 37 W	S 57 38 E	2,573	Millwind.
			S 38 04 W	N 38 04 E	1,220	Stony.
			S 46 45 E	N 46 44 W	1,457	Gibbs.
6	38 46 50.92	76 11 00.00	N 59 15 W	S 59 16 E	3,380	Millwind.
			S 67 36 W	N 67 36 E	1,604	Stony.
			S 27 03 E	N 27 03 W	728	Gibbs.

BAZZLES HILL.

(*Miles River—Chart No. 34.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 46 21.94	76 11 00.00	S 33 18 W	N 33 18 E	705	Maiden.
			S 71 49 E	N 71 49 W	1,015	Long.
			N 45 12 E	S 45 12 W	467	Gibbs.
2	38 46 44.98	76 12 09.46	S 40 29 E	N 40 29 W	540	Stony.
			S 78 19 E	N 78 18 W	2,200	Gibbs.
			N 29 02 W	S 29 02 E	2,206	Millwind.
3	38 46 50.94	76 11 53.28	S 7 08 W	N 7 08 E	617	Stony.
			S 69 31 E	N 69 31 W	1,855	Gibbs.
			N 2 35 E	S 2 35 W	2,085	Fair.
4	38 46 53.50	76 11 46.12	S 20 50 W	N 20 50 E	747	Stony.
			S 64 36 E	N 64 35 W	1,715	Gibbs.
			N 10 37 E	S 10 37 W	1,746	Leeds.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

LONG POINT.

(*Miles River—Chart No. 34.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 45 44.84	76 10 37.48	N 56 02 W	S 56 03 E	1,184	Maiden.
			S 85 09 W	N 85 08 E	629	Barnett.
			S 85 05 E	N 85 05 W	1,087	Comb.
2	38 45 50.45	76 10 47.28	N 56 52 W	S 56 52 E	864	Maiden.
			S 56 38 W	N 56 37 E	441	Barnett.
			S 78 07 E	N 78 06 W	1,370	Comb.
3	38 45 57.80	76 11 00.00	N 59 56 W	S 59 56 E	447	Maiden.
			S 3 46 W	N 3 46 E	491	Barnett.
			S 72 28 E	N 72 28 W	1,760	Comb.
4	38 46 21.94	76 11 00.00	S 33 18 W	N 33 18 E	705	Maiden.
			S 71 49 E	N 71 49 W	1,015	Long.
			N 45 12 E	S 45 12 W	467	Gibbs.
5	38 46 01.44	76 10 23.04	S 47 03 E	N 47 03 W	958	Comb.
			N 1 39 W	S 1 39 E	374	Long.
			N 85 44 W	S 85 45 E	1,367	Maiden.

BARNETT.

(*Miles River—Chart No. 34.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 45 40.04	76 10 57.24	S 38 36 E	N 38 36 W	1,159	Hall.
			N 87 33 E	S 87 33 W	1,605	Comb.
			N 44 04 W	S 44 04 E	151	Barnett.
2	38 45 46.02	76 11 03.90	S 37 15 E	N 37 15 W	117	Barnett.
			N 50 03 E	S 50 04 W	1,393	Long.
			N 24 35 W	S 24 35 E	684	Maiden.
3	38 45 57.80	76 11 00.00	N 59 56 W	S 59 56 E	447	Maiden.
			S 3 46 W	N 3 46 E	491	Barnett.
			S 72 28 E	N 72 28 W	1,760	Comb.
4	38 45 50.45	76 10 47.28	N 56 52 W	S 56 52 E	864	Maiden.
			S 56 38 W	N 56 37 E	441	Barnett.
			S 78 07 E	N 78 06 W	1,370	Comb.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

COX.

(*Miles River—Chart No. 34.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 46 16.13	76 09 22.88	N 27 10 E	S 27 10 W	1,052	Whit.
			N 64 12 W	S 64 13 E	911	Hunting.
			S 85 40 W	N 85 40 E	1,603	Long.
2	38 46 28.88	76 09 26.79	S 24 11 W	N 24 11 E	1,074	Ham.
			S 33 37 E	N 33 37 W	347	Kirk.
			N 71 02 E	S 71 03 W	1,056	McConnell.
3	38 46 30.98	76 09 19.61	S 30 56 W	N 30 56 E	1,225	Ham.
			S 00 25 E	N 00 25 W	360	Kirk.
			N 71 24 E	S 71 24 W	854	McConnell.
4	38 46 24.46	76 09 07.19	N 5 46 E	S 5 46 W	658	Whit.
			N 73 35 W	S 73 35 E	756	Spree.
			S 88 03 W	N 88 02 E	1,857	Beg.
5	38 46 20.94	76 09 14.50	N 47 50 E	S 47 50 W	911	McConnell.
			N 18 31 E	S 18 31 W	816	Whit.
			N 57 59 W	S 57 59 E	627	Spree.
	Thence from corner No. 5 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					

CHLORA POINT.

(*Middle Choptank River—Chart No. 35.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 37 17.02	76 08 23.70	S 45 23 W	N 45 22 E	3,580	Le Compte.
			S 3 16 W	N 3 16 E	1,929	Toot.
			S 63 42 E	N 63 41 W	2,994	Howells.
	Thence along county boundary as delineated on chart No. 35 to corner No. 2.					
2	38 37 52.86	76 09 25.36	N 47 35 E	S 47 36 W	1,106	Chlora.
			N 2 15 E	S 2 15 W	3,304	Landeye.
			S 64 59 W	N 64 58 E	1,538	Large water tank.
3	38 38 14.98	76 08 54.49	N 57 03 W	S 57 04 E	4,131	Choptank River Light.
			S 59 05 W	N 59 04 E	2,160	Castle.
			S 10 18 E	N 10 18 W	3,944	Toot.
4	38 37 35.40	76 08 18.40	S 52 35 E	N 52 34 W	3,203	Howells.
			N 82 34 E	S 82 35 W	1,516	Trappe.
			N 35 34 W	S 35 35 E	1,641	Chlora.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

BEACONS.

(*Middle Choptank River—Chart No. 35.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 37 13.20	76 06 50.78	N 40 47 W	S 40 48 E	1,248	Trappe.
			N 57 31 W	S 57 33 E	3,879	Chlora.
			S 55 02 W	N 55 01 E	3,134	Toot.
2	38 37 21.58	76 07 45.12	S 48 20 E	N 48 19 W	2,228	Howells.
			N 43 14 E	S 43 15 W	909	Trappe.
			N 45 33 W	S 45 33 E	2,571	Chlora.
3	38 37 58.10	76 07 52.94	N 70 44 W	S 70 44 E	1,725	Chlora.
			S 15 36 W	N 15 35 E	3,437	Toot.
			S 34 36 E	N 34 35 W	3,295	Howells.
4	38 38 06.64	76 07 40.13	N 81 52 W	S 81 51 E	1,087	Chlora.
			S 19 20 W	N 19 20 E	3,813	Toot.
			S 27 03 E	N 27 02 W	3,368	Howells.
	Thence from corner No. 4 along the mean low-water line of the shore to corner No. 5, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
5	38 37 41.21	76 07 21.59	N 65 08 W	S 65 09 E	2,709	Chlora.
			S 86 52 W	N 86 50 E	4,674	Large water tank.
			S 32 36 W	N 32 36 E	3,253	Toot.
6	38 37 36.75	76 07 01.72	N 20 49 E	S 20 49 W	684	Gis.
			N 74 00 W	S 74 01 E	547	Trappe.
			S 1 21 W	N 1 21 E	5,098	Howard.
	Thence from corner No. 6 along the mean low-water line of the shore to corner No. 1, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					

LA TRAPPE.

(*La Trappe Creek—Chart No. 35.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 37 49.10	76 06 57.42	N 19 22 E	S 19 22 W	832	Rice.
			N 33 35 W	S 33 35 E	546	Lan.
			S 67 24 W	N 67 24 E	692	Trappe.
2	38 38 00.36	76 07 06.94	S 9 50 E	N 9 50 W	808	Grubin.
			S 67 35 E	N 67 35 W	412	Gis.
			N 52 26 E	S 52 27 W	666	Rice.
	Thence from corner No. 2 along the mean low-water line of the shore to corner No. 3, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
3	38 38 02.40	76 07 03.16	S 2 31 E	N 2 31 W	866	Grubin.
			S 51 12 E	N 51 11 W	361	Gis.
			N 51 46 E	S 51 46 W	545	Rice.
4	38 38 18.30	76 06 35.39	S 57 01 W	N 57 01 E	366	Rice.
			S 44 20 W	N 44 20 E	1,749	Trappe.
			S 17 42 W	N 17 42 E	647	Inez.
5	38 38 11.96	76 06 31.00	N 87 59 W	S 87 59 E	423	Rice.
			S 72 26 W	N 72 26 E	1,050	Lan.
			S 37 51 W	N 37 51 E	510	Inez.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

LA TRAPPE—Continued.

(*La Trappe Creek—Chart No. 35*)—Continued.

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
6	38 38 00.08	76 06 53.96	N 23 58 E	S 23 58 W	455	Rice.
			N 77 56 W	S 77 57 E	402	Lan.
			S 14 37 W	N 14 37 E	814	Grubin.
7	38 37 49.40	76 06 52.64	N 10 56 E	S 10 56 W	790	Rice.
			N 43 56 W	S 43 57 E	617	Lan.
			S 70 10 W	N 70 10 E	815	Trappe.

HOWELLS POINT.

(*Middle Choptank River—Chart No. 35.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 36 08.62	76 06 41.08	N 60 42 E	S 60 43 W	3,153	Red.
			N 00 25 W	S 00 25 E	080	Howells.
			N 82 15 W	S 82 16 E	2,827	Toot.
2	38 36 17.00	76 06 47.70	N 66 31 E	S 66 32 W	3,163	Red.
			N 11 41 E	S 11 41 W	712	Howells.
			N 87 52 W	S 87 53 E	2,652	Toot.
3	38 36 21.46	76 07 24.53	S 63 26 E	N 63 25 W	3,578	Command.
			N 63 57 E	S 63 57 W	1,246	Howells.
			N 1 39 E	S 1 39 W	2,690	Trappe.
4	38 36 38.20	76 07 55.21	S 22 33 E	N 22 32 W	3,380	Howard.
			S 89 28 E	N 89 27 W	1,930	Howells.
			N 22 43 E	S 22 43 W	2,303	Trappe.
5	38 37 04.47	76 07 41.54	S 13 07 E	N 13 07 W	4,115	Howard.
			S 60 04 E	N 60 03 W	1,810	Howells.
			N 23 04 E	S 23 05 W	1,346	Trappe.
6	38 36 55.18	76 06 52.64	N 26 16 W	S 26 16 E	1,731	Trappe.
			S 64 44 W	N 64 44 E	2,785	Toot.
			S 5 34 W	N 5 34 E	3,713	Howard.
	Thence from corner No. 6 along the mean low-water line of the shore to corner No. 7, excluding any creek, cove, or inlet less than 100 yards in width at its mouth at low tide.					
7	38 36 23.08	76 06 39.78	N 68 35 E	S 68 36 W	2,890	Red.
			N 7 34 W	S 7 34 E	496	Howells.
			S 87 52 W	N 87 51 E	2,862	Toot.
8	38 36 30.34	76 06 37.90	S 14 43 W	N 14 43 E	2,954	Howard.
			S 45 59 E	N 45 59 W	2,734	Command.
			N 72 56 E	S 72 57 W	2,762	Red.
9	38 36 13.20	76 06 25.27	N 58 57 E	S 58 58 W	2,692	Red.
			N 28 33 W	S 28 34 E	940	Howells.
			N 86 01 W	S 86 02 E	3,251	Toot.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

DICKINSON.

(*Middle Choptank River—Chart No. 35.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 35 58.78	76 05 55.86	N 39 11 E	S 39 12 W	2,419	Red.
			N 43 06 W	S 43 06 E	1,797	Howells.
			S 46 06 W	N 46 05 E	2,586	Howard.
2	38 36 46.24	76 06 33.60	S 38 25 W	N 38 25 E	369	Howells.
			S 14 17 W	N 14 17 E	3,502	Howard.
			N 83 48 E	S 83 49 W	2,543	Red.
3	38 36 55.65	76 06 31.08	S 26 00 W	N 26 00 E	675	Howells.
			S 14 05 W	N 14 05 E	3,825	Howard.
			S 89 00 E	N 88 59 W	2,461	Red.
4	38 36 29.84	76 05 41.78	N 54 24 E	S 54 24 W	1,422	Red.
			N 80 37 W	S 80 38 E	1,622	Howells.
			S 38 12 W	N 38 11 E	3,615	Howard.
5	38 36 40.84	76 04 43.15	S 88 03 W	N 88 02 E	3,153	Howells.
			S 25 25 W	N 25 25 E	2,495	Command.
			S 49 18 E	N 49 17 W	3,215	Double.
6	38 36 24.38	76 04 53.36	N 81 10 W	S 81 11 E	2,916	Howells.
			S 25 14 W	N 25 14 E	1,878	Command.
			S 60 20 E	N 60 19 W	3,117	Double.
7	38 36 10.60	76 05 12.54	N 71 30 E	S 71 31 W	3,391	Double.
			N 14 32 E	S 14 32 W	1,526	Red.
			N 68 58 W	S 68 59 E	2,544	Howells.
	Thence along county boundary as delineated on chart No. 35 to corner No. 8.					
8	38 36 09.56	76 05 26.90	N 26 46 E	S 26 46 W	1,693	Red.
			N 64 34 W	S 64 35 E	2,208	Howells.
			S 50 39 W	N 50 38 E	3,401	Howard.
	Thence along county boundary as delineated on chart No. 35 to corner No. 1.					

KIRBY.

(*Middle Choptank River—Chart No. 35.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 35 36.96	76 04 11.95	S 87 00 W	N 86 59 E	1,900	Command.
			S 36 03 W	N 36 03 E	1,289	Cambridge.
			N 87 58 E	S 87 58 W	1,613	Double.
	Thence along county boundary as delineated on Chart No. 35 to corner No. 2.					
2	38 36 10.60	76 05 12.54	N 71 30 E	S 71 31 W	3,391	Double.
			N 14 32 E	S 14 32 W	1,526	Red.
			N 68 58 W	S 68 59 E	2,544	Howells.
3	38 36 24.38	76 04 53.36	N 81 10 W	S 81 11 E	2,916	Howells.
			S 25 14 W	N 25 14 E	1,878	Command.
			S 60 20 E	N 60 19 W	3,117	Double.
4	38 35 53.98	76 03 49.22	N 41 49 W	S 41 48 E	2,708	Red.
			S 76 36 W	N 76 35 E	1,714	Hambrooks Bar Beacon.
			S 40 05 W	N 40 05 E	2,113	Cambridge.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

SCRAPING LINE.

(*Middle Choptank River—Chart No. 35.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 35 03.79	76 03 26.56	S 88 27 E	N 88 26 W	1,670	Boling.
			N 19 15 E	S 19 16 W	1,246	Double.
			N 60 16 W	S 60 17 E	2,618	Hambrooks Bar Beacon.
2	38 35 04.16	76 03 51.00	S 88 34 E	N 88 33 W	2,317	Boling.
			N 42 16 E	S 42 17 W	1,573	Double.
			N 51 38 W	S 51 38 E	2,067	Hambrooks Bar Beacon.
	Thence along county boundary as delineated on Chart No. 35 to corner No. 3.					
3	38 35 19.74	76 04 02.77	S 77 29 E	N 77 28 W	2,691	Boling.
			N 65 01 E	S 65 01 W	1,510	Double.
			N 24 38 W	S 24 38 E	3,512	Red.
4	38 35 11.64	76 03 14.60	S 77 06 E	N 77 05 W	1,388	Boling.
			N 5 54 E	S 5 54 W	916	Double.
			N 68 16 W	S 68 17 E	2,781	Hambrooks Bar Beacon.

BOLINGBROKE SAND.

(*Middle Choptank River—Chart No. 35.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 34 34.04	76 02 59.57	N 78 36 E	S 78 37 W	2,006	Rear.
			N 44 54 E	S 44 55 W	1,353	Boling.
			N 7 56 W	S 7 56 E	2,200	Double.
	Thence along county boundary as delineated on Chart No. 35 to corner No. 2.					
2	38 34 40.44	76 03 12.48	N 85 32 E	S 85 33 W	2,314	Rear.
			N 60 13 E	S 60 13 W	1,494	Boling.
			N 1 07 E	S 1 07 W	1,963	Double.
3	38 35 13.08	76 02 45.08	S 85 34 W	N 85 32 E	3,068	Cambridge.
			S 19 14 W	N 19 14 E	2,497	Shoal.
			S 57 53 E	N 57 53 W	675	Boling.
4	38 35 03.27	76 02 35.10	N 88 24 W	S 88 25 E	3,323	Cambridge.
			S 28 12 W	N 28 12 E	2,299	Shoal.
			S 65 55 E	N 65 55 W	1,444	Rear.

THE BLACK BUOY.

(*Middle Choptank River—Chart No. 35.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 34 18.74	76 01 58.46	S 49 58 E	N 49 58 W	926	Ferry.
			N 20 53 E	S 20 53 W	977	Rear.
			N 24 13 W	S 24 13 E	1,616	Boling.
	Thence along county boundary as delineated on Chart No. 35 to corner No. 2.					
2	38 34 24.13	76 02 28.08	N 57 10 E	S 57 10 W	1,347	Rear.
			N 5 22 E	S 5 22 W	1,298	Boling.
			S 60 58 W	N 60 58 E	1,456	Shoal.
3	38 34 46.00	76 02 20.24	S 89 35 E	N 89 35 W	925	Rear.
			N 8 51 W	S 8 51 E	562	Boling.
			N 79 42 W	S 79 43 E	3,776	Cambridge.
4	38 34 32.08	76 01 52.26	N 84 15 E	S 84 16 W	2,403	Whitehall.
			N 21 41 E	S 21 41 W	498	Rear.
			N 38 55 W	S 38 55 E	1,317	Boling.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

SUGAR LOAF.

(*Middle Choptank River—Chart No. 35.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 34 18.74	76 01 58.46	S 49 58 E	N 49 58 W	926	Ferry.
			N 20 53 E	S 20 53 W	977	Rear.
			N 24 13 W	S 24 13 E	1,616	Boling.
2	38 34 32.08	76 01 52.26	N 84 15 E	S 84 16 W	2,403	Whitehall.
			N 21 41 E	S 21 41 W	498	Rear.
			N 38 55 W	S 38 55 E	1,317	Boling.
3	38 34 26.46	76 01 27.88	N 76 09 E	S 76 10 W	1,798	Whitehall.
			N 35 17 W	S 35 17 E	799	Rear.
			S 74 37 W	N 74 36 E	2,960	Shoal.
4	38 34 20.32	76 01 26.22	N 69 29 E	S 69 30 W	1,820	Whitehall.
			N 30 28 W	S 30 28 E	996	Rear.
			S 78 46 W	N 78 45 E	2,967	Shoal.

Thence along county boundary as delineated on Chart No. 35 to corner No. 1.

CHANCELLOR POINT.

(*Upper Choptank River—Chart No. 35.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 34 20.32	76 01 26.22	N 69 29 E	S 69 30 W	1,820	Whitehall.
			N 30 28 W	S 30 28 E	996	Rear.
			S 78 46 W	N 78 45 E	2,967	Shoal.
2	38 34 26.46	76 01 27.88	N 76 09 E	S 76 10 W	1,798	Whitehall.
			N 35 17 W	S 35 17 E	799	Rear.
			S 74 37 W	N 74 36 E	2,960	Shoal.
3	38 34 42.38	76 01 18.55	S 14 00 W	N 14 00 E	1,436	Ferry.
			S 85 57 E	N 85 56 W	1,503	Whitehall.
			N 43 53 E	S 43 54 W	2,824	Duck.
4	38 35 05.22	76 01 23.00	S 6 03 W	N 6 03 E	2,175	Ferry.
			S 61 32 E	N 61 32 W	1,839	Whitehall.
			N 58 38 E	S 58 39 W	2,430	Duck.
5	38 35 07.06	76 00 48.15	S 27 23 W	N 27 22 E	2,595	Ferry.
			S 36 36 E	N 36 35 W	1,169	Whitehall.
			N 43 46 E	S 43 47 W	1,667	Duck.
6	38 34 39.53	76 01 03.10	N 1 17 W	S 1 17 E	1,731	Barber.
			N 79 17 W	S 79 18 E	1,137	Rear.
			S 30 15 W	N 30 15 E	1,502	Ferry.

Thence along county boundary as delineated on chart No. 35 to corner No. 1.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

BRITISH HARBOR.

(*Upper Choptank River—Chart No. 35.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 35 14.68	76 00 30.08	N 72 03 E	S 72 04 W	3,094	Gander.
			N 35 29 E	S 35 29 W	1,162	Duck.
			N 59 07 W	S 59 07 E	1,063	Barber.
2	38 35 25.36	76 00 55.80	S 29 58 E	N 29 57 W	1,796	Whitehall.
			S 64 00 E	N 63 59 W	1,775	Shell.
			N 66 36 E	S 66 37 W	1,476	Duck.
3	38 35 32.84	76 00 48.36	S 21 09 E	N 21 09 W	1,939	Whitehall.
			S 53 37 E	N 53 36 W	1,737	Shell.
			N 73 54 E	S 73 55 W	1,206	Duck.
4	38 35 38.06	76 00 19.50	S 52 11 W	N 52 11 E	2,875	Rear.
			S 27 44 E	N 27 43 W	1,363	Shell.
			S 66 47 E	N 66 46 W	2,671	Chief.
5	38 35 33.88	76 00 01.76	S 59 24 W	N 59 23 E	3,185	Rear.
			S 8 46 E	N 8 46 W	1,078	Shell.
			S 65 19 E	N 65 18 W	2,184	Chief.
6	38 35 29.35	75 59 58.01	N 77 38 E	S 77 39 W	2,144	Gander.
			N 21 05 W	S 21 05 E	484	Duck.
			N 88 21 W	S 88 21 E	1,762	Barber.
	Thence along county boundary as delineated on chart No. 35 to corner No. 1.					

GOOSE POINT.

(*Upper Choptank River—Chart No. 35.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 35 29.35	75 59 58.01	N 77 38 E	S 77 39 W	2,144	Gander.
			N 21 05 W	S 21 05 E	484	Duck.
			N 88 21 W	S 88 21 E	1,762	Barber.
2	38 35 33.88	76 00 01.76	S 59 24 W	N 59 23 E	3,185	Rear.
			S 8 46 E	N 8 46 W	1,078	Shell.
			S 65 19 E	N 65 18 W	2,184	Chief.
3	38 35 47.52	75 59 45.76	S 48 42 E	N 48 42 W	2,078	Chief.
			S 85 02 E	N 85 01 W	1,777	Gander.
			N 59 11 E	S 59 12 W	2,385	War.
4	38 35 46.40	75 59 12.80	S 27 19 E	N 27 19 W	1,502	Chief.
			S 82 40 E	N 82 39 W	906	Gander.
			N 43 01 E	S 43 02 W	1,724	War.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

MILL DAM.

(*Upper Choptank River—Chart No. 35.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 35 46.40	75 59 12.80	S 27 19 E	N 27 19 W	1,502	Chief.
			S 82 40 E	N 82 39 W	906	Gander.
			N 43 01 E	S 43 02 W	1,724	War.
2	38 36 00.58	75 59 35.54	S 35 28 E	N 35 28 W	2,224	Chief.
			S 68 24 E	N 68 23 W	1,613	Gander.
			N 66 16 E	S 66 17 W	1,941	War.
3	38 36 19.46	75 59 25.95	S 45 21 E	N 45 21 W	1,751	Gander.
			N 84 34 E	S 84 34 W	1,530	War.
			N 48 42 E	S 48 43 W	1,971	Wick.
4	38 36 29.37	75 59 02.88	S 22 06 E	N 22 05 W	1,689	Gander.
			S 78 18 E	N 78 17 W	933	War.
			N 42 00 E	S 42 00 W	1,300	Wick.
5	38 36 26.90	75 58 57.27	S 18 11 E	N 18 11 W	1,559	Gander.
			S 82 07 E	N 82 07 W	772	War.
			N 34 31 E	S 34 31 W	1,274	Wick.
Thence along county boundary as delineated on Chart No. 35 to corner No. 1.						

JAMAICA POINT.

(*Upper Choptank River—Chart No. 35.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 36 32.47	75 58 58.80	S 17 32 E	N 17 31 W	1,751	Gander.
			S 69 58 E	N 69 57 W	857	War.
			N 41 29 E	S 41 30 W	1,150	Wick.
2	38 36 34.74	75 59 10.36	S 25 31 E	N 25 30 W	1,935	Gander.
			S 71 34 E	N 71 34 W	1,171	War.
			N 53 40 E	S 53 41 W	1,325	Wick.
3	38 36 43.05	75 59 07.98	S 20 49 E	N 20 49 W	2,168	Gander.
			S 58 11 E	N 58 10 W	1,234	War.
			N 03 19 E	S 03 19 W	1,124	Wick.
4	38 36 41.02	75 58 56.60	S 13 28 E	N 13 28 W	2,013	Gander.
			S 52 05 E	N 52 04 W	947	War.
			N 50 50 E	S 50 50 W	908	Wick.

SPAR BUOY.

(*Upper Choptank River—Chart No. 35.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 37 46.60	75 58 57.78	N 21 41 E	S 21 42 W	1,322	Blind.
			N 61 00 W	S 61 00 E	732	Raccoon.
			S 58 18 W	N 58 18 E	1,150	Bank.
2	38 38 03.92	75 58 55.44	S 41 13 W	N 41 12 E	1,580	Bank.
			S 50 52 E	N 50 52 W	1,300	House.
			N 86 59 E	S 87 00 W	1,990	Hut.
3	38 38 07.18	75 58 37.02	N 42 21 E	S 42 22 W	1,506	Up.
			N 6 26 W	S 6 26 E	538	Blind.
			S 74 06 W	N 74 05 E	1,237	Raccoon.
Thence along county boundary as delineated on Chart No. 35 to corner No. 1.						

APPENDIXES.

APPENDIX A.—LAWS RELATING TO THE COOPERATION OF THE COAST AND GEODETIC SURVEY AND BUREAU OF FISHERIES WITH THE MARYLAND SHELL FISH COMMISSION.

The work of the Coast and Geodetic Survey and of the Bureau of Fisheries, in cooperation with the Maryland Shell Fish Commission, in surveying the oyster bars, establishing permanent landmarks at triangulation stations, and preparing for publication the necessary charts and technical and legal descriptions of boundaries and landmarks shown on these charts, has been executed in compliance with a request from the governor of the State of Maryland to the Secretary of Commerce and Labor, and by the authority of the following laws of the United States and Maryland:

[Act of Congress approved May 26, 1906.]

AN ACT To authorize the Secretary of Commerce and Labor to cooperate, through the Bureau of the Coast and Geodetic Survey and the Bureau of Fisheries, with the shellfish commissioners of the State of Maryland in making surveys of the natural oyster beds, bars, and rocks in the waters within the State of Maryland.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of Commerce and Labor be, and he is hereby, authorized and directed, upon the request of the governor of the State of Maryland, to designate such officers, experts, and employees of the Bureau of the Coast and Geodetic Survey and of the Bureau of Fisheries as may be necessary to cooperate with the Maryland State board of shellfish commissioners in making a survey of and locating the natural oyster beds, bars, and rocks in the waters within the State of Maryland; and the Secretary of Commerce and Labor is hereby authorized and directed to furnish to the officers, experts, and employees of said Bureaus so detailed as aforesaid such instruments, appliances, and steam launches as may be necessary to make the survey aforesaid; and the Secretary of Commerce and Labor is hereby authorized to have made in the Bureau of the Coast and Geodetic Survey all the plats necessary to show the results of the aforesaid survey and the locations of the said natural oyster beds, bars, and rocks in the waters within the State of Maryland, and to furnish to the board of shellfish commissioners of the State of Maryland such copies as may be necessary, and for this purpose to employ, in the District of Columbia and elsewhere, such technically qualified persons as may be necessary to carry out the purpose of this act.

SEC. 2. That the Secretary of Commerce and Labor is hereby further authorized to have erected or constructed by the officers so detailed as aforesaid, while making such survey, such structures as may be necessary to mark the points of triangulation, so that the same may be used for such future work of the Coast and Geodetic Survey as the said Bureau may be hereafter required to perform in prosecuting the Government coast survey of the navigable waters of the United States located within the State of Maryland.

* * * * * * *

SEC. 4. That this act shall take effect from the date of its passage.

[Act of Congress approved June 30, 1906.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and seven, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and seven, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including the expenditures authorized under Public Act Numbered One hundred and eighty-one, approved May twenty-six, nineteen hundred and six, and contingent expenses incident thereto, five thousand dollars, together with the unexpended balance under this appropriation for nineteen hundred and six and prior years which is hereby reappropriated and made available on this account for the fiscal year nineteen hundred and seven * * *.

[Act of Congress approved March 4, 1907.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and eight, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and eight, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, to be immediately available and to continue available until expended, twenty-five thousand dollars * * *.

[Act of Congress approved May 27, 1908.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and nine, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and nine, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, which expenses, including cost of plats and charts, shall not exceed fifteen thousand dollars in any one year, to be immediately available, twenty thousand dollars.

[Act of Congress approved March 4, 1909.]

AN ACT Making appropriation for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and ten, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and ten, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, which expenses, including cost of plats and charts, shall not exceed fifteen thousand dollars in any one year, to be immediately available, twenty thousand dollars.

[Act of Congress approved June 25, 1910.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and eleven, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and eleven, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys, * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, to be immediately available fifteen thousand dollars.

[Act of Congress approved March 4, 1911.]

AN ACT Making appropriation for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and twelve, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and twelve, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, to be immediately available, thirteen thousand dollars.

[Act of the Legislature of Maryland approved April 2, 1906.]

AN ACT To establish and promote the industry of oyster culture in Maryland, to define and mark natural oyster beds, bars and rocks lying under the waters of this State, to prescribe penalties for the infringement of the provisions of this Act, and * * * .

SECTION 1. *Be it enacted by the General Assembly of Maryland,* That the following sections be, and they are hereby, added to article 72 of the Code of Public General Laws, title "Oysters." * * *

SEC. 86. The Board of Shell Fish Commissioners shall, as soon as practicable after the passage of this Act, cause to be made a true and accurate survey of the natural oyster beds, bars and rocks of this State, said survey to be made with reference to fixed and permanent objects on the shore, giving courses and distances, to be fully described and set out in a written report of said survey, as hereinafter required. A true and accurate delineation of the same shall be made on copies of published maps and charts of the United States coast and geodetic survey, which said copies shall be filed in the office of the said commissioners in the city of Annapolis, and the said commissioners shall further cause to be delineated upon copies of the published maps and charts of the United States coast and geodetic survey, of the largest scale, one copy for each of the counties of this State in the waters of which there are natural oyster beds, bars and rocks, all natural beds, bars and rocks lying within the waters of such county, which maps shall be filed in the offices of the clerks of the Circuit Court for the respective counties wherein the grounds so designated may lie. * * *

SEC. 87. The Governor of this State is hereby requested to ask the assistance of the United States coast and geodetic survey, and of the United States Fish Commissioner, to aid in the carrying out of the provisions of the preceding section.

* * * * * * * * *

SEC. 89. As soon as practicable after the first day of April, 1906, the said commissioners shall organize, and shall at once proceed, with the assistance of such person or persons as may be detailed by the United States coast and geodetic survey and the United States Fish Commissioner, to aid them in their work, and of such persons as may be appointed under the preceding section, to have laid out, surveyed and designated on the said charts, the natural beds and bars, and shall cause to be marked and defined as accurately as practicable the limits and boundaries of the natural beds, bars, and rocks as established by said survey, and they shall take true and accurate notes of said survey in writing, and make an accurate report of said survey, setting forth such a description of landmarks as may be necessary to enable the said board, or their successors, to find and ascertain the boundary lines of the said natural oyster beds, bars and rocks, as shown by a delineation on the maps and charts provided in this Act; said report shall be completed and filed in the office of the board in the city of Annapolis within ninety days after the completion of the survey of any county. Said commissioners shall cause the same to be published in pamphlet form, and transmit copies of the same to the Clerks of the Circuit court for the respective counties, where the charts have been filed or directed to be filed as hereinafter provided; the said report to be filed by the clerks of the several counties in a book kept for that purpose. And the said survey and report, when filed, subject to the right of appeal hereafter provided for in this Act, shall be taken in all of the courts of this State as conclusive evidence of the boundaries and limits of all natural oyster beds, bars and rocks, lying within the waters of the county wherein such survey and report are filed, and shall be construed to mean in all of the said courts that there are no natural oyster beds, bars or rocks lying within the waters of the counties wherein such report and survey are filed other than those embraced in the survey authorized by this Act, and that all areas of the Chesapeake Bay and its tributaries within the State of Maryland, not shown in the survey to be natural

oyster beds, bars or rocks shall be construed in all the courts of the State to be barren bottoms and open for disposal by the State for the purpose of private planting or propagation of oysters thereon under the provisions of this Act, provided, that the said survey and report shall not be construed as to affect in any manner the holdings by citizens of this State in any lot which may have been appropriated or taken up under the laws of this State prior to the approval of this Act.

The law of the State of Maryland, passed March 9, 1842, authorizing officers of the United States Coast and Geodetic Survey to enter upon the lands within the State limits for the purposes of the survey, is as follows:

AN ACT Concerning the Survey of the Coast of Maryland.

SECTION 1. *Be it enacted by the General Assembly of Maryland,* That it shall and may be lawful for any person or persons employed under and by virtue of an act of the Congress of the United States, * * * at any time hereafter to enter upon lands within this State for the purpose of exploring, surveying, triangulating, or leveling, or doing any other matter or thing which may be necessary to effect the objects of said act, and to erect any works, stations, buildings, or appendages requisite for that purpose, doing no unnecessary injury to private or other property.

SEC. 2.[1] *And be it enacted,* That in case the person or persons employed under the act of Congress aforesaid, can not agree with the owners or possessors of the land so entered upon and used as to the amount of damage done thereto by reason of the removal of fences, cutting of trees or injury to the crop or crops growing on the same, it shall and may be lawful for the said parties or either of them to apply to the chief justice for the time being or one of the associate judges of the judicial district in which such land may be situated, who shall thereupon appoint three disinterested and judicious freeholders, residents of the same judicial district, to proceed with as much despatch as possible to the examination of the matter in question, and the faithful assessment of the damages sustained by the owners or possessors aforesaid, and the said freeholders or a majority of them, having first taken and subscribed an oath or affirmation before the chief or associate justice aforesaid or other person duly authorized to administer the same, that they will well and truly examine and assess as aforesaid, and having given five days' notice to both parties of the time of their meeting, shall proceed to the spot, and then and there upon their own view and if required, upon the evidence of witnesses (to be by them sworn or affirmed and examined), shall assess the said damages, and shall afterward make report thereof and of their proceedings in writing under their hands and seals and file the same within five days thereafter in the office of the clerk of the county in which the land aforesaid is situated, subject to an appeal by either party to the county court of the said county within ten days after filing as aforesaid, and the said report so made as aforesaid if no appeal as aforesaid be taken, shall be held to be final and conclusive as between the said parties, and the amount so assessed and reported shall be paid to the said owners or possessors of the land so damaged within twenty days after the filing of said report, and the said chief or associate justice as aforesaid, shall have authority to tax and allow upon the filing of said report, such costs, fees and expenses to the said freeholders for the performance of their duty as he shall think equitable and just, which allowance shall be paid by the person or persons employed under the act of congress aforesaid, within the time last above limited, but if an appeal as aforesaid be taken, the case shall be set down for hearing at the first term of county court aforesaid, ensuing upon and after appeal, and it shall be lawful for either party immediately after the entry of such appeal, to take out summons for such witnesses as may be necessary to be examined upon the hearing aforesaid, and the said court shall have power in its discretion to award costs against which ever the final judgment shall be entered, and such appeal at the option of either party may and shall be heard before and the damage assessed by a jury of twelve men to be taken from the regular panel and elected as in other cases.

SEC. 3. *And be it enacted,* That if any person or persons shall wilfully injure or deface or remove any signal, monument or building or any appendage thereto, erected, used or constructed under and by virtue of the act of congress aforesaid, such person or persons so offending shall severally forfeit and pay the sum of fifty dollars with costs of suit to be sued for and recovered by any person who shall first

[1] Under the rulings of the Comptroller of the Treasury no damages can be collected except through the United States Court of Claims unless an agreement has been made in advance.

prosecute the same before any justice of the peace of the county where the person so offending may reside, and shall also be liable to pay the amount of damages thereby sustained, to be recovered with costs of suit in an action on the case, in the name and for the use of the United States of America, in any court of competent jurisdiction.

Appendix B.—THE HAMAN OYSTER CULTURE LAW.

[Extract from Second Report of Shell Fish Commission.]

OBJECT.

"The legislature in placing chapter 711 of the acts of 1906, better known as the Haman oyster culture law, upon the statute books of Maryland, had a twofold object in view:

"1. To encourage an industry in oyster culture upon the barren bottoms beneath the tidewaters of the State.

"2. To prevent the leasing of natural oyster bars for the purpose of oyster culture."

SURVEY.

"To make the leasing of barren bottoms possible and the leasing of natural bars impossible, provision was made for a survey of the natural bars for the purpose of accurately locating and marking the same. It was definitely provided that no barren bottoms should be leased in any part of the State until the natural bars of that region had been surveyed, charted, and marked with buoys."

Definition of a Natural Oyster Bar.

NATURAL BAR NOT DEFINED.

"The Shell Fish Commission is instructed by section 90 of the Haman oyster culture law to exercise its judgment liberally in favor of the natural bars when surveying, charting, and buoying them, but other than this the commission is uninstructed in this important matter. The responsibility of defining a natural bar is placed upon the commission.

DIVERSITY OF OPINION.

"No definition of a natural oyster bar could be formulated by any man or body of men which would meet with the approval of all parties concerned. Oystermen, as a rule, hold that all bottoms where oysters grow or have grown naturally, even though now practically barren of oysters, should be considered natural bars. Other citizens of the State, who are not directly interested in the oyster business but interested in the oyster industry from the standpoint of revenue, hold, as a rule, that no bottoms should be excluded from leasing for oyster culture which by methods known to oyster culturists may be made to yield a greater number of oysters than they now produce.

"It should be evident to everyone that neither of these definitions could be adopted by the commission as a working basis for determining which of the grounds surveyed are natural oyster bars."

THE GOLDSBOROUGH DEFINITION.

The definition of a natural oyster bar which very nearly approaches a reasonable and satisfactory compromise between the views of the subject held by oystermen on one hand and by oyster culturists on the other is that contained in an opinion rendered by Judge Charles F. Goldsborough in the circuit court for Dorchester County in the July term, 1881, in the case of William T. Windsor and George R. Todd *v.* Job T. Moore.

This definition has been adopted by the Shell Fish Commission as the basis for the determination of the status of the various oyster bottoms surveyed, and is as follows:

What, then, is a natural bar or bed of oysters? It would be a palpable absurdity for the State to attempt to promote the propagation and growth of oysters and to encourage its citizens, by a grant of land, to engage in their culture, if the lands authorized to be taken up were only those upon which oysters do not and can not be made to grow. That there may be lands covered by water in the State

where no oysters can be found, but where, if planted, they could be cultivated successfully, may be possible; but if so, I imagine that their extent must be too limited for them to be of much practical general advantage for the purposes of such a law as the one under discussion; but there are thousands of acres of hard and shifting sands where oysters not only are not found, but where it would be folly to plant them, and these latter it can not be supposed that the State intended to offer to give away, for the simple reason that the State could not help knowing that nobody would have them.

Upon the other hand there are large and numerous tracts where oysters of natural growth may be found in moderate numbers, but not in quantities sufficient to make it profitable to catch them, and yet where oysters may be successfully planted and propagated. In my opinion these can not be called natural bars or beds of oysters within the meaning of the act of assembly, and it is just such lands as these that the State meant to allow to be taken up under the provisions of the above-mentioned section of the act.

But there is still another class of lands where oysters grow naturally and in large quantities and to which the public are now and have been for many years in the habit of resorting with a view to earning a livelihood by catching this natural growth, and here, I think, is the true test of the whole question. Land can not be said to be a natural oyster bar or bed merely because oysters are scattered here and there upon it and because if planted they will readily live and thrive there; but whenever the natural growth is so thick and abundant that the public resort to it for a livelihood, it is a natural oyster bar or bed and comes within the above-quoted restriction in the law, and can not be located or appropriated by any individual.

APPLICATION OF DEFINITION.

Before this definition may be of use in determining accurately and scientifically the status of an oyster ground, its central idea, "livelihood," must be expanded into accurately determinable factors, and these factors must be combined into a practical scheme of investigating the condition of the ground under consideration.

Stated briefly, a livelihood is represented by a sum of money obtained from the sale, at a fixed price, of a certain quantity of oysters gathered in a given time from an allotted area of ground.

Knowing the value of each of these factors, it becomes possible to calculate the number of oysters an oyster ground must produce per square yard in order that oystermen may secure a livelihood by working upon it.

NOTE.—The factors into which the commission resolved the livelihood problem, the value assigned to each factor, and the scheme devised for practical use in examining and applying the definition to oyster bottoms are given in outline in their second report under the heading of the preceding extract, and in detail in their first report on pages 32 to 69.

APPENDIX C.—SUMMARY OF THE PARTICULAR SURVEYING OPERATIONS WHICH CONSTITUTE AN "OYSTER SURVEY" AS NOW BEING CARRIED ON IN MARYLAND.

Explanation.—A brief account of the particular surveying operations which constitute an "oyster survey" as now being carried on in Maryland, will assist in the interpretation of records contained in the technical part of this report, and will be of interest to many who may not understand the necessity for the great amount of work being done or its complicated character.

To those familiar with methods used in surveying and charting the characteristic features of large bodies of water there is an evident necessity for the various operations performed, especially when it is known that the boundaries of the public oyster bars and of the private lots leased for purposes of oyster culture must be surveyed and charted with the greatest practical accuracy. To others it will be sufficient to state that the actual experience gained from oyster surveys in other States has proven that in order to avoid endless dissatisfaction and litigation it is necessary to accurately locate and permanently establish oyster boundaries as is now being done in Maryland.

Triangulation survey.—Such refinement of survey work as that demanded by the conditions of an oyster survey when carried on at considerable distances offshore can only be obtained by the use of a system of triangulation as a framework or foundation. Therefore, a triangulation survey, including the permanent marking of the positions of landmarks with monuments, and a record of the descriptions of their locations for future recovery is a necessary operation of a complete oyster survey.

Topographic survey.—The technical records which establish the relation between the offshore oyster boundaries and triangulation landmarks are sufficient for the requirements of engineers in making resurveys, but do not supply the needs of others who are interested in the same boundaries by reason of their occupation as oystermen concerned as to the public oyster bars, or oyster culturists concerned as to the leasable bottoms. For these it is necessary to have the charts of the survey show the relation of the shore line and other topographic features to the boundaries of the public oyster bars and private oyster farms. Therefore a topographic survey is a necessary operation of a complete oyster survey.

Hydrographic survey.—In the settlement of the important question of what is or what is not a natural oyster bar, and in the consideration of bottoms to be selected for purposes of oyster culture, information as to the depth of water and the character of the bottom is required. Therefore a hydrographic survey is a necessary operation of a complete oyster survey.

Necessary foundation for an oyster survey.—Consequently, the necessary components of a satisfactory foundation for a complete oyster survey are the three classes of survey operations technically named triangulation, topography, and hydrography, or, stated in another way, the foundation of a practical oyster survey includes the surveying operations usually followed by the Coast and Geodetic Survey leading up to the preparation and publication of nautical charts.

Special surveys and investigations pertaining to oysters.—Having obtained this cartographic survey for a foundation, partly by new work and partly from records of previous work of the Government, the combined operations[1] making up an "oyster survey" are completed by superimposing on this foundation special surveys and investigations pertaining particularly to oysters or other shell fish.

The special surveys pertaining to oysters furnish information as to the location and outline of oyster-shell bottoms, and are carried on by the sounding-boat party in addition to the usual hydrographic work.[2] This operation consists of the observation and record of the character of vibration of a wire and chain apparatus which is dragged over the bottom, the vibrations or lack of vibrations indicating the presence and quantity of shells or absence of shells.

The special oyster investigations[3] consist of the actual determination of the kind and quantity of oysters on the bottom, and such economic and biological studies of the supply of oyster food, density of water, character of the bottom, and other important matters as affect the growth of oysters. In this work the oyster investigation stations are located and buoyed by the hydrographic party while engaged in the survey of the oyster-shell limits. They are selected with the view of obtaining characteristic data which can be used for the interpretation of the recorded vibrations of the chain apparatus at all other points covered by the survey.

Preparation of results.—The actual surveying operations and oyster investigations having been completed for any one county, there still remains technical work of nearly equal magnitude to that described.[4] This work consists of the preparation of charts and technical descriptions of boundaries and landmarks for publication by the Government, the preparation of that part of the annual report of the commission covering the special oyster surveys and investigations, the making of the leasing charts and finished projections, and finally the filing of the oyster charts and records with the courts and the commission, thus opening a county for oyster culture.

Summary.—From the foregoing account it can be seen that a complete oyster survey properly conducted so as to answer all practical requirements of the present and permanency of results for the future is a very complicated affair, involving many lines of surveying and other scientific work, and requiring the professional services of experts in the various operations of cartographic surveying and shell-fish investigations.

[1] See Appendix D of this publication for "Statistics of results of combined operations of the Government and State."

[2] See pp. 104 to 123 of "First Annual Report of Maryland Shell Fish Commission."

[3] See pp. 30 to 67 and 129 to 199 of "First Annual Report of Maryland Shell Fish Commission."

[4] No mention is made here of the large amount of administrative work of the commission, which is greatly complicated and increased by the effect of the oyster-survey operations on many thousands of people whose interests are more or less involved; or of the large amount of survey work involved in the survey and record of the boundaries of oyster lots leased from the State by private individuals for the purposes of oyster culture.

APPENDIX D.—STATISTICS OF RESULTS OF THE COMBINED OYSTER SURVEY OPERATIONS OF THE GOVERNMENT AND STATE.[1]

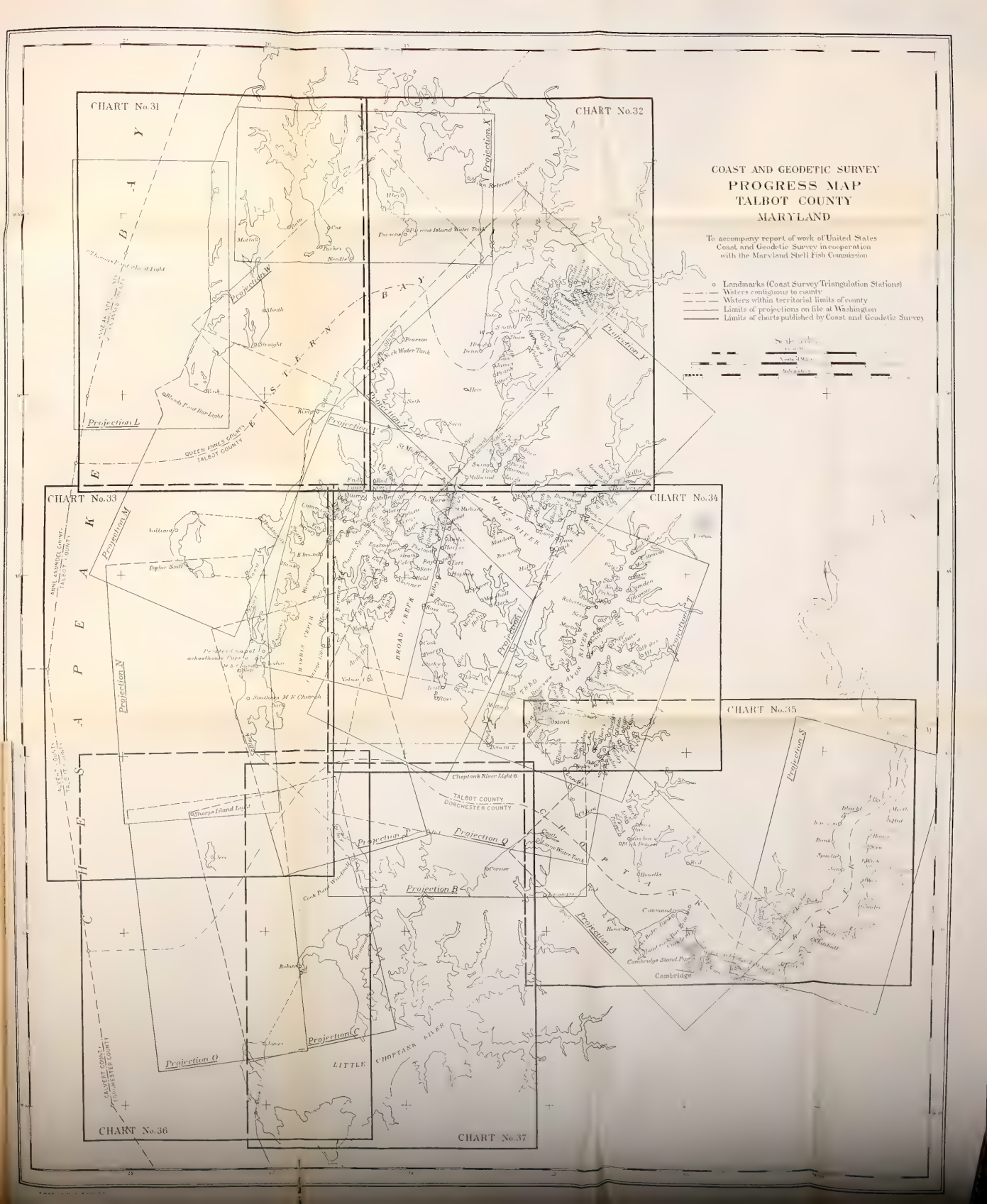
Operations	Anne Arundel County	Somerset County	Wicomico County	Worcester County	Calvert County	Charles County
Beginning of field work	June 29, 1906	May 2, 1907	Aug. 27, 1907	Nov. 8, 1907	May 2, 1908	Aug. 18, 1908
Filing of certified charts and reports	June 20, 1907	July 1, 1908	Dec. 1, 1908	Apr. 12, 1909	Dec. 14, 1909	Jan. 27, 1911
Natural oyster bars surveyed and delineated[2]	91	37	15	28	41	15
Acres of natural oyster bars	33,577	27,566	2,038	1,655	12,303	2,285
Crab bottoms surveyed and delineated		54				
Acres of crab bottoms		32,108				
Clam beds surveyed and delineated		3				
Acres of clam beds		506				
Boundary buoys located and planted	362	154	53	104	149	51
Triangulation landmarks established	123	86	30	48	78	42
Miles of shore line covered by triangulation	110	125	46	95	95	32
Square miles of water covered by triangulation	220	375	44	110	157	20
Miles of examination of shell bottom with chain apparatus	425	340	59	63	250	38
Oyster investigation stations occupied	440	679	162	147	667	113
Tide stations established	4	3	1	1	2	1
Number of soundings over shell bottoms	37,049	17,904	3,387	3,649	11,292	1,631
Square miles covered by soundings and chain apparatus	58	55	3	3	30	4
Projections prepared and plotted	9	13	2	5	8	3
Leasing charts prepared	13	12	2	3	5	2
Oyster charts published	4	6	2	3	5	1
Reports published	2	2	2	2	2	2
Progress maps published	2	2	2	2	2	2

Operations	St. Marys County	Baltimore County	Kent County	Queen Annes County	Talbot County	Total[3]
Beginning of field work	May 2, 1908	Apr. 14, 1909	Apr. 14, 1909	Apr. 14, 1909	July 6, 1909	
Filing of certified charts and reports	July 6, 1911	Aug. 10, 1911	Oct. 5, 1911	Nov. 29, 1911	July 20, 1912	
Natural oyster bars surveyed and delineated[2]	124	3	64	98	132	648
Acres of natural oyster bars	25,755	3,010	12,809	24,721	36,564	182,283
Crab bottoms surveyed and delineated						54
Acres of crab bottoms						32,108
Clam beds surveyed and delineated						3
Acres of clam beds						506
Boundary buoys located and planted	375	12	211	340	529	2,340
Triangulation landmarks established	238	15	147	199	336	1,022
Miles of shore line covered by triangulation	160	12	110	240	230	1,070
Square miles of water covered by triangulation	180	50	130	500	240	1,710
Miles of examination of shell bottom with chain apparatus	400	33	164	288	511	2,371
Oyster investigation stations occupied	1,472	64	1,151	1,949	1,975	8,819
Tide stations established	7	1	3	3	5	26
Number of soundings over shell bottoms	19,344	1,080	8,123	13,880	20,213	137,552
Square miles covered by soundings and chain apparatus	57	6	21	47	77	361
Projections prepared and plotted	15	4	10	12	14	69
Leasing charts prepared	10	1	4	11	12	53
Oyster charts published	8	1	3	4	7	35
Reports published	2	2	2	2	2	15
Progress maps published	2	1	1	1	1	13

[1] These statistics do not include the large amount of triangulation, topography, and hydrography resulting from previous work of the Coast and Geodetic Survey, which was utilized in the preparation of the published oyster charts and records. Work in Kent, Queen Annes, Talbot, and Dorchester Counties has been finished, but final statistics of results will not be published until these counties are opened for oyster culture.

[2] Less quantities covered by statistics of more than one county.

[3] Total area of natural oyster bars of Connecticut, 5,770 acres.


COAST AND GEODETIC SURVEY
PROGRESS MAP
TALBOT COUNTY
MARYLAND
To accompany report of work of United States Coast and Geodetic Survey in cooperation with the Maryland Shell Fish Commission
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Waters contiguous to county
Waters within territorial limits of county
Limits of projections on file at Washington
Limits of charts published by Coast and Geodetic Survey
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CHART No.32
CHART No.33
CHART No.34
CHART No.35
CHART No.36
CHART No.37
Projection L
Projection M
Projection N
Projection X
Projection Y
Projection I
Projection J
Projection K
Projection P
Projection Q
Projection B
Projection C
Projection O
Projection A
Projection S
EASTERN BAY
CHESAPEAKE BAY
TALBOT COUNTY
QUEEN ANNES COUNTY
DORCHESTER COUNTY
ANNE ARUNDEL COUNTY
CALVERT COUNTY
Cambridge
Oxford
LITTLE CHOPTANK RIVER
BROAD CREEK
MILL RIVER
TRIPPE CREEK
HARRIS CREEK
Chaptank River Light
Sharps Island Light
Cambridge Stand Pipe
Cambridge Water Tank
Pt. Lookout Light
Thomas Point Shoal Light
Poplar Island
Bloody Point Bar Light

DEPARTMENT OF COMMERCE AND LABOR
COAST AND GEODETIC SURVEY
O. H. TITTMANN, Superintendent

SURVEY OF OYSTER BARS

WICOMICO COUNTY
MARYLAND

DESCRIPTION OF BOUNDARIES AND LANDMARKS AND REPORT OF WORK OF UNITED STATES COAST AND GEODETIC SURVEY IN COOPERATION WITH UNITED STATES BUREAU OF FISHERIES AND MARYLAND SHELL FISH COMMISSION

By C. C. YATES
CHIEF OF COAST AND GEODETIC SURVEY PARTY
ASSISTANT, COAST AND GEODETIC SURVEY

WASHINGTON
GOVERNMENT PRINTING OFFICE
1909

LETTER OF SUBMITTAL.

DEPARTMENT OF COMMERCE AND LABOR,
COAST AND GEODETIC SURVEY,
Washington, November 12, 1908.

SIR: I have the honor to transmit herewith a report of the officer detailed from the Coast and Geodetic Survey to cooperate with the Bureau of Fisheries and the Maryland Shell Fish Commission in surveying the oyster bars of the State of Maryland, and certain technical results which are necessary for the interpretation and use of the plats of the survey made by the Government.

This work has been done under the provisions of the act of Congress entitled "An act to authorize the Secretary of Commerce and Labor to cooperate, through the Bureau of the Coast and Geodetic Survey and the Bureau of Fisheries, with the shell fish commissioners of the State of Maryland in making surveys of the natural oyster beds, bars, and rocks in the waters within the State of Maryland," approved May 26, 1906, and of the acts of Congress making appropriations for sundry civil expenses of the Government for the fiscal years ending June 30, 1907, 1908, and 1909.

Respectfully,

O. H. TITTMANN, *Superintendent.*

To Hon. OSCAR S. STRAUS,
Secretary of Commerce and Labor.

CERTIFICATION.

ANNAPOLIS, MD., *November 10, 1908.*

The following publication is certified to contain correct technical descriptions of all boundaries and landmarks established in the waters of Wicomico County by the Maryland Shell Fish Commission in cooperation with the United States Coast and Geodetic Survey.

C. C. YATES,
Chief of Coast and Geodetic Survey Party,
Assistant, Coast and Geodetic Survey.

ANNAPOLIS, MD., *November 10, 1908.*

Examined and certified to be correct.

WALTER J. MITCHELL,
CASWELL GRAVE,
BENJAMIN K. GREEN,
Maryland Shell Fish Commission.
SWEPSON EARLE,
Hydrographic Engineer.

NOTE.—As required by law, certified copies of this publication and of the charts of the natural oyster bars of "Wicomico County and Adjacent Waters" were filed in the office of the clerk of the circuit court of Wicomico County and in the office of the Board of Shell Fish Commissioners, at Annapolis, on December 1, 1908.

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SURVEY OF OYSTER BARS, WICOMICO COUNTY, MD.

INTRODUCTION.

PUBLICATIONS.

The preparation of publications relating to the survey of the oyster bars of Maryland has been divided between the Government and the State in accordance with the laws[a] authorizing the work and the natural division of the surveying operations of the cooperating forces.

The publications prepared and issued by the Government under the direction of the Superintendent of the Coast and Geodetic Survey consist of a series of charts and a technical report for each county surveyed.[b] The charts show all legal boundaries of oyster bars within the adopted boundaries of the waters opened up for leasing with each county, and the location of all landmarks (Coast and Geodetic Survey triangulation stations) used as a foundation for the delineation of these various boundaries. The technical report gives technical and legal descriptions of all oyster bar and other boundaries, and descriptions of all landmarks shown on the charts, and includes the report[c] of the representative of the Coast and Geodetic Survey in charge of the work of that Service in cooperation with the Bureau of Fisheries and the Maryland Shell Fish Commission. These charts and technical reports are prepared and certified for file with the courts and the Commission, as required by the laws of the State, and contain all information necessary to make a permanent record of the work of the Commission and the Government for all future requirements of the courts, or for any resurveys that may become necessary.

The part prepared and issued by the State under the direction of the Shell Fish Commission consists of an annual report[d] of all the operations of the Commission performed under the provisions of the laws of Maryland,[e] including results of biological

[a] See Appendix A for laws relating to the cooperation of the Coast and Geodetic Survey and Bureau of Fisheries with the Maryland Shell Fish Commission.

[b] These charts and technical reports can be obtained by application to the Superintendent of the Coast and Geodetic Survey, at Washington, D. C. The publications ready for issue are those for Anne Arundel, Somerset, and Wicomico counties. Those for Worcester, Calvert, St. Marys, and Charles counties are now being prepared.

[c] See page 13 and the progress map attached to this publication.

[d] These reports can be obtained by application to the Shell Fish Commission, Annapolis, Md. They are issued annually in October, and the first report is now available for distribution.

[e] See Appendix B for an extract from the "First Report of the Maryland Shell Fish Commission," giving a concise summary of the "Haman Oyster Culture Law."

and economic oyster investigations, methods and results of the hydrographic survey of the boundaries of oyster bars and crab bottoms, the administrative report and financial statement of the Commission, information relating to oyster culture, methods of surveying and leasing of oyster lots, and much other important matter of legal and scientific value.

These two sets of publications are planned and arranged to supplement each other without unnecessary duplication, and when combined they form a complete report of operations, methods, and results of the work of both the Government and State.

COOPERATION OF THE COAST AND GEODETIC SURVEY.

The work of the Coast and Geodetic Survey, as the name of the Service indicates, includes a survey of the coasts of the United States made on a geodetic basis. This has involved the gradual construction of a great framework of interstate triangulation for use as a foundation for detail hydrographic and topographic surveys, from which there has been compiled and published a complete set of charts of the coasts of the United States, including all waters of Maryland where oysters grow. This existing triangulation, hydrography, and topography is essential for a correct and practical survey of natural oyster bars; and it being one of the fundamental functions of the Coast and Geodetic Survey to furnish such data, the cooperation of the Coast and Geodetic Survey with the Bureau of Fisheries and the Maryland Shell Fish Commission is a practical and natural development of Government work leading to the conservation and increase of the supply of food.

COOPERATION OF THE BUREAU OF FISHERIES.

The Bureau of Fisheries has cooperated with the Coast and Geodetic Survey and the Maryland Shell Fish Commission principally as an adviser in matters relating to the biological and economic survey of oyster bars and the methods to be employed for that purpose.[a] A steam launch, rowing boat, and certain apparatus have also been furnished.

The primary function of the Bureau of Fisheries is to increase the productiveness of marine and fresh waters by such measures as may be best suited to the purpose, and the services rendered in connection with the survey of the oyster bars of Maryland are strictly in line with the fundamental law under which it acts. In certain States other than Maryland similar work has been conducted by the Bureau acting independently, the same ends being attained at greater expense to the Government.

GENERAL REMARKS.

A brief account of the particular surveying operations which constitute an "oyster survey" as now being carried on in Maryland will assist in the interpretation of records contained in the technical part of this report, and will be of interest to many who may not understand the necessity for the great amount of work being done or its complicated character.

To those familiar with methods used in surveying and charting the characteristic features of large bodies of water there is an evident necessity for the various operations

[a] Hon. George M. Bowers, Commissioner of Fisheries, has detailed for this service Dr. H. F. Moore, Assistant, Bureau of Fisheries.

performed, especially when it is known that the boundaries of the public oyster bars and of the private lots leased for purposes of oyster culture must be surveyed and charted with the greatest attainable accuracy. To others it will be sufficient to state that the actual experience gained from oyster surveys in other States has proven that in order to avoid endless dissatisfaction and litigation, it is necessary to accurately locate and permanently establish oyster boundaries as is now being done in Maryland.

Such refinement of survey work as that demanded by the conditions of an oyster survey when carried on at considerable distances offshore can only be obtained by the use of a system of triangulation as a frame work or foundation. Therefore, a triangulation survey including the permanent marking of the positions of landmarks with monuments and a record of the descriptions of their locations for future recovery is a necessary operation of a complete oyster survey.

The technical records which established the relation between the offshore oyster boundaries and triangulation landmarks are sufficient for the requirements of engineers in making resurveys, but do not supply the needs of others who are interested in the same boundaries by reason of their occupation, as oystermen concerned as to the public oyster bars, or oyster culturists concerned as to the barren bottoms. For these it is necessary to have the charts of the survey show the relation of the shore line and other topographic features to the boundaries of the public oyster bars and private oyster farms. Therefore, a topographic survey is a necessary operation of a complete oyster survey.

In the settlement of the important question of what is, or what is not, a natural oyster bar, and in the consideration of bottoms to be selected for purposes of oyster culture, information as to the depth of water and the character of the bottom is required. Therefore, a hydrographic survey is a necessary operation of a complete oyster survey.

Consequently, the necessary components of a satisfactory foundation for a complete oyster survey are the three classes of survey operations technically named triangulation, topography, and hydrography, or, stated in another way, the foundation of a practical oyster survey includes the surveying operations usually followed by the Coast and Geodetic Survey leading up to the preparation and publication of nautical charts.

Having obtained this cartographic survey for a foundation, partly by new work and partly from records of previous work of the Government, the combined operations [a] making up an "oyster survey" are completed by superimposing on this foundation special surveys and investigations pertaining particularly to oysters or other shell fish.

The special surveys pertaining to oysters furnish information as to the location and outline of oyster-shell bottoms, and are carried on by the sounding boat party in addition to the usual hydrographic work.[b] This operation consists of the observation and record of the character of vibration of a wire and chain apparatus which is dragged over the bottom, the vibrations or lack of vibrations indicating the presence and quantity of shells or absence of shells.

[a] See Appendix C of this publication for "Statistics of results of combined operations of the Government and State."

[b] See pages 104 to 123 of "First Annual Report of Maryland Shell Fish Commission."

The special oyster investigations[a] consist of the actual determination of the kind and quantity of oysters on the bottom, and such economic and biological studies of the supply of oyster food, density of water, character of the bottom, and other important matters as affect the growth of oysters. In this work the oyster investigation stations are located and buoyed by the hydrographic party while engaged in the survey of the oyster-shell limits. They are selected with the view of obtaining characteristic data which can be used for the interpretation of the recorded vibrations of the chain apparatus at all other points covered by the survey.

The actual surveying operations and oyster investigations having been completed for any one county, there still remains technical work of nearly equal magnitude to that described.[b] This work consists of the preparation of charts and technical descriptions of boundaries and landmarks for record and publication by the Government, the manufacture and planting of "State buoys" at all corners of the oyster-bar boundaries, the preparation of that part of the annual report of the Commission covering the oyster investigations, the making of the leasing charts and finished projections, and finally the survey and record of the boundaries of oyster lots leased from the State by private individuals for the purposes of oyster culture.

From the foregoing account it can be seen that a complete oyster survey properly conducted so as to answer all practical requirements of the present and permanency of results for the future is a very complicated affair, involving many lines of surveying and other scientific work, and requiring the professional services of experts in the various operations of cartographic surveying and shell-fish investigations.

[a] See pages 30 to 67 and 129 to 199 of "First Annual Report of Maryland Shell Fish Commission."

[b] No mention is made here of the large amount of administrative work of the Commission, which is greatly complicated and increased by the economic and political effect of the oyster-survey operations on many thousands of people whose interests are more or less involved.

REPORT OF THE WORK OF THE COAST AND GEODETIC SURVEY.

INSTRUCTIONS.

The two following letters, together with the laws[a] of the United States relating to the subject, constitute the "instructions" received by the chief of the Coast and Geodetic Survey party engaged on work in connection with the Maryland Shell Fish Commission. They are short and definite, but furnish ample authority and leeway for all legitimate development of the cooperation of the Government and the State in the survey of oyster bars. The "free hand" permitted by these orders, together with the aid and many valuable suggestions received from the officers of the Survey at Washington, has proved very beneficial to the work, and is greatly appreciated.

DEPARTMENT OF COMMERCE AND LABOR,
OFFICE OF THE SECRETARY,
Washington, June 2, 1906.

SIR: In reply to your letter of May 28, requesting me to designate officers of the Coast and Geodetic Survey and of the Bureau of Fisheries to cooperate with the State of Maryland in making survey of and locating the natural oyster beds, I have the honor to inform you that Mr. C. C. Yates will be designated to cooperate on the part of the Coast and Geodetic Survey as soon as Congress makes the provisions of the act effective by providing an appropriation for the purpose.

Respectfully,

LAWRENCE O. MURRAY, *Assistant Secretary.*

His excellency Hon. EDWIN WARFIELD,
Governor of Maryland, Annapolis, Md.

DEPARTMENT OF COMMERCE AND LABOR,
COAST AND GEODETIC SURVEY,
Washington, July 3, 1906.

SIR: Upon the receipt of these instructions you will surrender the command, accounts, etc., of the steamer *Endeavor* to the Hydrographic Inspector. * * *

As soon as this transfer is completed you will enter upon the duties of Coast Survey representative on the Shell Fish Commission of Maryland.

You will consult the commissioners, prepare a programme of work, and submit estimates in the usual form.

You are authorized to come to Washington for consultation from time to time as may be necessary.

* * * * * * *

Very respectfully,

O. H. TITTMANN, *Superintendent.*

Capt. C. C. YATES,
U. S. C. and G. S. Steamer Endeavor, Baltimore, Md.

ORGANIZATION AND EQUIPMENT.

The personnel and occupation of the party of the Coast and Geodetic Survey have remained practically unchanged since the beginning of the "oyster survey." Besides the chief of party, it consists of the necessary triangulators, computers, draftsmen, and temporary employees required to carry on both the surveying operations in the

[a] For these laws see Appendix A.

field and the preparation for publication of charts and technical records in the Office at Washington.

The equipment for the work of the party has been ample and satisfactory. The large living and office quarters furnished the Government on the Maryland Shell Fish Commission house boat *Oyster* have been very convenient for the work, besides facilitating efficient cooperation with the surveying and oyster investigation parties of the State. In addition to the accommodations on the *Oyster*, the Coast and Geodetic Survey party has had the constant use of the large steam launch *Inspector* and several other boats furnished by its own Service, and the occasional use of the Bureau of Fisheries launch *Canvasback*[a] and the steamer *Governor McLane*[b] of the State fishery force.

The greater part of the equipment of instruments for the operations of both the Government and State has been furnished by the Coast and Geodetic Survey and consists of all necessary theodolites, levels, sextants, drafting instruments, hydrometers, etc., required for all field and office work.

CHRONOLOGICAL STATEMENT OF WORK.[c]

On June 20, 1907, the work in connection with the publication of the "Charts of Natural Oyster Bars" and report[d] of "Survey of Oyster Bars" for Anne Arundel County was finally completed and the survey records and reports for that county were ready for filing in the archives of the Survey at Washington.

In addition to this work, a Coast and Geodetic Survey signal-building party was engaged in the erection of triangulation signals in Somerset County from May 2 to June 25 in cooperation with a signal-building party of the Shell Fish Commission.

From June 25 until the practical completion of the field work in Somerset and Wicomico counties on November 6, the usual routine of field and office work was followed without material interruption except that resulting from the moving of the house boat *Oyster* from Crisfield to Manokin River on July 13, then to Piney Island on August 27, and to Wicomico River on August 30, where she remained until her removal to Nanticoke River on September 30, 1907.

From this latter date the work in Wicomico County predominated until the field surveys of that county were completed, when the entire party left by rail for Worcester County, it being impracticable to move the house boat to the waters of that locality.

At the close of the survey work in Worcester County in the last part of December, office work relating to Somerset and Wicomico counties was begun at Baltimore,[e] and was continued without material interruption until March 23, 1908, when a subparty went to Worcester and Somerset counties to finish some details of field work in those sections required for the preparation of the technical reports and oyster charts.

[a] By courtesy of Dr. H. F. Moore, U. S. Bureau of Fisheries.

[b] By courtesy of Capt. James A. Turner, commanding.

[c] The field and office work relating to Somerset County is so intermixed with that of Wicomico County that this statement includes the work of both counties.

[d] See that report for an account of the work from July 3, 1906, to June 20, 1907.

[e] Office rooms were furnished for the work of the Government party in the "old court-house" and afterwards in the new custom-house by courtesy of Hon. William F. Stone, collector of customs.

The very large amount of work of computation and drafting necessary to make the results of the survey of the previous season available for publication was nearly completed on May 2, 1908, when it was transferred to the Government quarters on the house boat *Oyster*, which left Baltimore on the same day with the party and outfit for her anchorage off Solomons Island, in the Patuxent River.

On July 1, 1908, certified copies of the technical report and oyster charts of Somerset County were filed in the office of the clerk of the circuit court of Somerset County and in the office of the Board of the Shell Fish Commissioners, at Annapolis, thus opening that county for oyster culture on that date.

STATISTICS.[a]

Landmarks and triangulation signals erected	30
Monuments planted to mark triangulation stations	30
Triangulation stations occupied for observations of horizontal angles	32
Old triangulation stations recovered	5
New triangulation stations established	32
Total old and new triangulation stations marked and described	37
Linear miles of shore line covered by triangulation (approximate)	46
Square miles covered by triangulation (approximate)	44
Hydrographic projections prepared and completed as records of oyster boundaries	2
Triangles computed	80
Geographic positions computed	37
Corners of oyster boundaries established by computation	56
Back azimuths and distances computed from corners of boundaries to triangulation stations	168
Descriptions of triangulation stations prepared for publication	37
Descriptions of oyster boundaries prepared for publication	15
Total typewritten pages of manuscript prepared for publication of report	115
"Charts of Natural Oyster Bars" prepared for publication	2
Progress map prepared for publication	1

GENERAL STATEMENT.

The results obtained from the work of the Coast and Geodetic Survey in Wicomico County in cooperation with the Bureau of Fisheries and the Maryland Shell Fish Commission need no other summary than is indicated by the published "Charts of Natural Oyster Bars" and the scheme of hydrographic projections and triangulation stations shown on the progress map at the end of this report.

The triangulation has been carried on in accordance with the standard methods of the Coast and Geodetic Survey, making this work and that of the "Descriptions of Triangulation Stations" of permanent value, not only to the State of Maryland in the survey of her oyster bars, but also to the Government for any future work it may do in the regions covered by the oyster survey operations.

The hydrographic projections and published charts were prepared with all the accuracy permitted by their large scale, especially as to the boundaries of the various

[a] These statistics only include field and office work directly performed by the party of the Coast and Geodetic Survey in connection with the oyster survey of Wicomico County, and do not include the many thousands of soundings and examinations of the character of the bottom made by the engineers of the Commission, which are of considerable value to the Coast and Geodetic Survey as hydrographic records for future use in connection with the preparation of new editions of charts of the waters of Maryland.

shell-fish bottoms in relation to landmarks, but this accuracy of location on the charts is further added to by published technical descriptions which should minimize the probability of any future dispute as to either landmarks or boundaries.

Stated another way and quoting from the report of the "Survey of Oyster Bars of Anne Arundel County:"

> The geographic positions of the permanent landmarks and signals have been determined with the usual precision of a trigonometric survey, and their locations at all points necessary to provide ample foundation for the surveying and charting operations permitted great accuracy of definition and location for the natural oyster bar and other boundaries established. At the same time, the very important element of permanency of the positions of boundaries has been secured, as the relocation of geodetic positions can always be accomplished by a competent surveyor, even though the original landmarks and monuments have been washed away, as has been the fate of hundreds of such points established by the Coast and Geodetic Survey on the shores of the Chesapeake Bay during the last sixty-five years.

In fact, when the survey of the oyster bars of Maryland is completed, it is believed that it will stand the test of time and practical use as a working foundation for whatever form the oyster legislation of the future may assume, and that the doing of the work systematically and accurately, once for all, not only means a better foundation of a great oyster industry by irradicably locating the natural oyster bars for the use of the public, but also a better and more permanent superstructure of oyster culture for the individual by the reason of the integrity of the foundation on which it stands.

Before ending this report the representative of the Coast and Geodetic Survey wishes to renew his statement of appreciation of the courteous assistance received from various Government and State officials and others interested in the oyster industry of Maryland, especially to the following:

To his colleague from the Department of Commerce and Labor, Dr. H. F. Moore of the Bureau of Fisheries, whose well-known scientific knowledge of all matters relating to oysters has been of great value to the work.

To Mr. Walter J. Mitchell, chairman of the Maryland Shell Fish Commission, who, by his administrative ability in carrying out the complicated requirements of the oyster laws and by his unfailing tact, has made the cooperation of the various services engaged on the work both agreeable and effective.

To Dr. Caswell Grave, secretary of the Commission, who, as editor of the Commission's annual report and commissioner in charge of the biological and economic oyster investigations, has been brought into constant contact with the Government work and aided its operations in every way.

To Benjamin K. Green, treasurer of the Commission, who has looked after the equipment and commissary of the house boat in such a way as to add greatly to the comfort and convenience of the party of the Coast and Geodetic Survey.

To Swepson Earle, hydrographic engineer to the Commission, whose knowledge of the work from former service in the Coast and Geodetic Survey has greatly facilitated his practical use of the technical data furnished by the Government.

To Thomas H. Robinson, counsel to the Commission, for courteously furnishing valuable information relating to county boundaries.

And to the many others connected with the Commission or who as residents in the locality where the work was being carried on have greatly assisted by furnishing important information or willing services.

CHARTS AND MAPS.

CHARTS OF NATURAL OYSTER BARS.

The charts[a] of the natural oyster bars of "Wicomico County and Adjacent Waters," published by the Coast and Geodetic Survey from results of surveys of the Government in cooperation with the Maryland Shell Fish Commission, consist of two sheets covering the eastern shore of Nanticoke River and the northern shore of Wicomico River, including all oyster-producing bottoms of Wicomico County. They are published on a scale of 1 part in 20,000 (approximately $3\frac{1}{8}$ inches to a statute mile) and are constructed on polyconic projections and based on the United States standard datum of the Coast and Geodetic Survey.

These charts show all oyster bars and other boundaries established by the Commission, and are certified for the purpose of filing in the office of the clerk of the circuit court of Wicomico County and in the office of the Commission at Annapolis, as required by the oyster laws of Maryland.

In addition to the oyster-bar and other boundaries, the charts show the location and name of all landmarks (U. S. Coast and Geodetic Survey triangulation stations) used in making the survey, together with the hydrography and topography[b] necessary to make the technical definitions and delineations of boundaries readily understandable both by the people engaged in the oyster industry and the general public who may become interested through leasing of barren bottoms for oyster culture.

The names of the oyster bars are those used locally, as nearly as could be ascertained by the hydrographic engineer of the Commission. When there was no local name in common use, a name was selected from one of the prominent features of the vicinity. By the use of recognized names or those that would naturally suggest certain sections of water, it is believed that much confusion will be avoided in the location on the charts of the oyster bars, especially by those not familiar with the use of maps.

The corners of the oyster bars are numbered from 1 to the total number of corners in each area under consideration. Where boundaries adjoin, making one point a corner of two or more oyster bars, these points have two or more numbers, each number corresponding to the bar in which the figure is located. The numbers of the corners correspond with the technical and legal descriptions of this publication under the headings of "Boundaries of natural oyster bars."

The landmarks and oyster bars have been grouped in the "Contents" of this publication in accordance with the charts upon which they are shown. To find a

[a] These charts can be obtained by application to the Superintendent of the Coast and Geodetic Survey, at Washington, D. C.

[b] Much of the details of the inshore topography was obtained from the excellent map of Wicomico County prepared and published by the Maryland Geological Survey under the direction of Dr. William Bullock Clark from surveys of the Maryland Geological Survey in cooperation with the U. S. Geological Survey.

particular oyster bar or landmark which is only known by name, consult the "Contents" and the desired chart and general location will be indicated. To find the name of a bar or landmark which is only known by location, consult the progress map at the end of this publication for the number of the chart on which it is to be found, and then examine the known locality on the chart for the name of the bar or landmark in question.

The contours on the charts showing the depth of water at mean low tide have been taken from the hydrographic sheets of former work of the Coast and Geodetic Survey. Four curves were selected as being the most convenient for taking off from the original hydrographic sheets and the ones of greatest value to those interested in shell-fish industries. The 1-fathom contour (6 feet) corresponds in a general way to the outer limits of the crab bottoms, while the waters outside of this curve and inside the 5-fathom contour (30 feet) practically include all the oyster bars surveyed. The 3-fathom contour (18 feet) furnishes the curve of about the average depth of water on the oyster bars and the 10-fathom contour (60 feet) serves in a general way to indicate the outer limits of probable oyster culture.

The boundaries of the waters within the "territorial limits of the county" opened up for the leasing with Wicomico County are plainly indicated on the charts. A description of this boundary is given in this publication under the heading "Boundaries of the county waters."

The areas in acres of the oyster bars were determined under the direction of the hydrographic engineer of the Commission by two independent planimeter measurements of the areas as delineated on the smooth projections of the Coast and Geodetic Survey. These areas are given in small figures in parentheses on the face of the chart and are usually located within the boundaries of the different areas.

The symbols used on the charts for the different kinds of boundaries, triangulation stations, contours of depth of water, etc., require no other explanation than that given in the legend and other notes on the face of the charts.

LEASING CHARTS.

The leasing charts of Wicomico County, like those for Anne Arundel and Somerset counties, have been prepared under the direction of the hydrographic engineer of the Commission. These charts are constructed on polyconic projections and based on the United States standard datum of the Coast and Geodetic Survey. They are made on the scales of 1 part in 5,000 or 1 part in 10,000, as the needs of oyster culture may require. Anne Arundel County required 13 leasing charts, Somerset County 12, and Wicomico County 2 to cover their oyster bottoms.

These charts show all the oyster bars, crab bottoms, and clam beds and other boundaries established by the Commission, and also all boundaries of oyster lots leased for the purpose of oyster culture, thus making them comprehensive and valuable records of the results of the operations of the oyster-culture laws.

The lots leased under the provision of the "old 5-acre law" are frequently of irregular shape, but the lots leased under the provision of the new oyster laws must be of rectangular shape by the terms of that act. For this latter purpose the leasing charts have been divided by parallels of latitude and meridians of longitude into small

rectangles of 1 acre or 5 acres, as may be best suited to area under consideration, and prospective leaseholders by the rules of the Commission are compelled to select whole rectangles as far as practicable.

For reasons of the present changeable nature of the number of lots leased and the large number of charts required, the leasing charts are not likely to be published for some years, but they can be seen at any time on file at the offices of the Commission, in Annapolis.

PROJECTIONS.

The polyconic projections[a] covering Wicomico County waters are 2 in number and on the scale of 1 part in 10,000. They were constructed by draftsmen of the Coast and Geodetic Survey, who also plotted the sextant positions which determine the location of the legal boundaries of the oyster bars as delineated by the Shell Fish Commission.

A copy of each of these projections, with all the plotted positions of triangulation stations, shore line, sextant positions, and boundaries of oyster bars, was made under the direction of the hydrographic engineer of the Commission by pricking through with a sharp needle the intersections of the projection lines and all other points as plotted on the original sheets.

These projections (in duplicate) are the original records of all oyster bar and other boundaries established by the Commission, one set being filed in the archives of the Coast and Geodetic Survey, at Washington, and the other set in the office of the Shell Fish Commission at Annapolis.

PROGRESS MAPS.

The progress map to be found at the end of this publication is on a scale of 1 part in 100,000, and shows in outline the work accomplished by the U. S. Coast and Geodetic Survey in Wicomico County and contiguous waters. It gives the scheme of all the charts and smooth projections constructed in connection with the survey, the location and names of all triangulation stations used as a basis for the surveying work, and the "boundaries of county waters" established by the Commission for the purpose of carrying out the laws of Maryland relating to oyster culture.

Besides indicating the amount of work done by the Coast and Geodetic Survey in connection with the work of the Shell Fish Commission, this progress map will be of special value for index purposes to engineers and others searching for the particular chart or projection covering the locality of the oyster bars or landmarks that may be under consideration.

The progress map[b] accompanying the "First Annual Report of the Maryland Shell Fish Commission" was prepared under the direction of the hydrographic engineer of the Commission. It is on the scale of 1 part in 400,000 and shows the outline of the tide-water counties of Maryland, with shaded areas to indicate the waters already covered by the operations of the oyster survey of Maryland.

[a] For the scheme of these projections see the progress map at the end of this publication.

[b] This map and report can be obtained by application to Maryland Shell Fish Commission, at Annapolis, Md.

BOUNDARIES OF THE COUNTY WATERS.[a]

WATERS WITHIN TERRITORIAL LIMITS OF COUNTY.

The laws of Maryland relating to oyster culture provide that "no person shall be permitted, by lease, assignment, or in any other manner, to acquire a greater amount of land than ten acres situated within the territorial limits of any of the counties, or one hundred acres in any other place."

The boundary line[b] between the waters "within the territorial limits" of Wicomico County and the waters in "any other place," as established by the Shell Fish Commission for the purpose of carrying out the oyster laws, and delineated on the charts and the smooth projections of the Coast and Geodetic Survey, is identical with the boundary line between Wicomico County and the adjacent counties of Dorchester and Somerset; therefore technically all waters opened up for leasing with Wicomico County are within the "territorial limits" of that county.

WATERS CONTIGUOUS TO COUNTY.

The oyster laws of Maryland provide that a true and accurate delineation of all natural oyster bars shall be made on copies of charts of the U. S. Coast and Geodetic Survey, "which said copies shall be filed in the office of the said Commissioners in the city of Annapolis," and "in the office of the clerks of the circuit courts for the respective counties wherein the grounds so designated may lie."

For the purpose of carrying out the latter part of this section of the law and for the purpose of establishing the limits of the oyster-culture area to be opened up for leasing with each county surveyed, it is necessary for the Shell Fish Commission to establish a boundary line between the waters contiguous to but not within the territorial limits of each county, and the waters contiguous to but not within the territorial limits of adjacent counties. But technically, as explained under the preceding heading of "Waters within territorial limits of county," there are no "waters contiguous to the county" in Wicomico County; and therefore there are no waters opened up for leasing with that county in which a person can lease "a greater amount than ten acres."

[a] For a complete historical and legal description of the boundaries of the counties of Maryland, the valuable publication entitled "The Counties of Maryland—Their Origin, Boundaries, and Election Districts," prepared by Dr. Edward B. Mathews and published by the Maryland Geological Survey under the direction of Dr. William Bullock Clark, Superintendent, should be consulted, as the boundaries described in this publication have been established and technically defined for the purpose of carrying out the oyster laws of the State, and may or may not be correct for other purposes.

[b] See "Charts of Natural Oyster Bars," published by the Coast and Geodetic Survey, and the progress map at the end of this publication.

LANDMARKS (U. S. COAST AND GEODETIC SURVEY TRIANGULATION STATIONS).

EXPLANATION OF DESCRIPTIONS OF LANDMARKS.

The oyster laws of Maryland authorizing the surveys to be made by the Shell Fish Commission provide for "an accurate report of said survey, setting forth such a description of landmarks as may be necessary to enable the said board, or their successors, to find and ascertain the boundary lines of said natural oyster beds, bars, and rocks, as shown by delineation on the maps and charts." The law of the United States authorizing the cooperation of the Department of Commerce and Labor in the survey of natural oyster bars of Maryland provides for the erection of "such structures as may be necessary to mark the points of triangulation, so that the same may be used for such future work of the Coast and Geodetic Survey as the said Bureau may be hereafter required to perform in prosecuting the Government coast survey of the navigable waters of the United States located within the State of Maryland."

Under the provisions of the sections of the laws stated above, the markings and descriptions of landmarks must be sufficient for the present and future needs of both the Government and the State. With this end in view, considerable work has been expended in erecting permanent monuments at the triangulation stations and in the proper description of their location.

An effort has been made to arrange the descriptions of locations of landmarks in a uniform and logical manner. The descriptions start with the assumption that the individual seeking to find a landmark has only an indefinite idea of its location. They then gradually proceed from general descriptions of the surroundings of a landmark to the specific details of the character of the center and reference markings. An examination of the descriptions themselves will best indicate the method followed.

The heading of each description is the name by which the landmark or triangulation station is known and designated in all work and records of the Government and State.

Under the heading of "Locality" the first paragraph gives a description of the general locality of the landmark and the serial number of the published "Chart of Oyster Bars" of Maryland which best shows its location. The published charts are on the large scale of 1 part in 20,000, and show the location of the triangulation stations so clearly that in many cases the written descriptions will not be required to find them.

Under the same heading of "Locality" the second paragraph furnishes the description of the immediate locality of the landmark and refers to the bearing and distance of standard cement monument marking the reference station, as it is the first object that is likely to catch the eye when the immediate vicinity of the desired station is reached.

Under the heading of "Marks" a description is given of the character of the markings of the "observed station" and the reference station. It will be noted that, although

the "observed station" is the one "occupied" and "observed on" for horizontal angles, and also the one whose geographic position is computed, frequently it is not marked as well as the reference station, and in many instances has only a pine stub to indicate its position. This is the case for the reason that the necessity of intervisibility of landmarks usually made it compulsory to locate these stations on edges of banks and ends of points of land, which in Chesapeake Bay and tributaries generally means that they will be washed away in a short period of years. The past experience of the Coast and Geodetic Survey in this region has shown the necessity of reference marks, if the frequent reestablishment of a new framework of triangulation is to be avoided.

All the marks designated in the descriptions as "the center point of triangle on standard cement monument" are exactly alike. These monuments are made of cement, sand, and gravel, and are 2 feet long and 8 inches square at top and bottom. Their tops are all marked with the same brass mold and show a center hole surrounded by a triangle, with the letters "M. S. F. C." arranged around the vertex and the letters "U. S. C. S." underneath the base of the triangle. The center hole is always in the center of the top of the monument by construction, and if this is found to have been broken off without disturbing the bottom, the center of its square section can be used as the location of the station.

All the "standard cement monuments," whether used for marking the "observed station" or "reference station," have been planted upright in exactly the same manner, with their tops projecting 3 or 4 inches above the surface of the ground.

Therefore, as the above facts in reference to the "standard cement monuments" are a constant element in all cases, the repetition of these facts in the description of stations is made needless by this one statement.

It is the expectation that the reference stations,[a] the character of which is explained above, will be used in many cases in the near future in the place of the "observed stations." This has been made possible by the careful measurements of direction and distance of these stations from the "observed station," which are recorded under the heading of "References."

Under the heading of "References" are given the directions and distances of all objects that might be useful in locating the stations when the surface marks can not be found. It is also contemplated that for general purposes of topography, hydrography, or location of boundaries of oyster bars these references will be sufficient in many cases to relocate the position of an "observed station" or "reference station" when both of them have been destroyed.

The first reference object given in the descriptions is always a triangulation station visible from the station being described. Its direction is taken as being 0° 00′ 00″, and the directions of all other objects are measured from it as an initial point, the angles being taken in a clockwise direction (left to right).

The true bearing[b] of the initial object is always given in parenthesis alongside the name. This furnishes means for the calculation of the bearings of any of the other

[a] To obtain the geographic positions of any of the "observed stations" or of the "reference stations," application should be made to the Superintendent of the Coast and Geodetic Survey at Washington, D. C.

[b] The mean magnetic variation for Wicomico County is 5° 45′ west of north 1908) and is increasing at the rate of 3′ yearly.

reference objects for the purposes of locating a station by compass bearings or for the relocation of corner buoys of oyster-bar boundaries by the method of horizontal angles described in this publication under the heading of "Boundaries of oyster bars."

The distances in the last column under "References" are given in three different units, which vary according to their accuracy. The "miles" are statute miles and may be considered only as rough estimates. The "yards" are more accurate, but must be looked on as results generally obtained by pacing or careful estimating. The "meters," however, are accurate to the degree indicated by their decimals and in every case have been measured with a steel tape. In the same manner the accuracy of the directions are indicated by the refinement of direction with which they are recorded.

DESCRIPTIONS OF TRIANGULATION STATIONS.

COW.

Locality.—Western shore Nanticoke River on Mink Point about ¼ mile east of entrance to Cow Creek. See Charts Nos. 11 and 12.)

Observed station is on a very soft marsh point at the outer edge of water bushes about 5 yards back from the shore to the east, 15 yards from extreme end of point to the southeast, and 15 yards from the shore to the southwest. No permanent reference objects near station. Cement monument marking reference station is 8.68 meters northwest of observed station.

Marks.—Observed station is a nail in a pine stub flush with ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Frog" (S 6° 13′ W)	0	00	00	2 miles.
A shanty	37	16	--	¾ mile.
REFERENCE STATION	129	19	20	8.68 meters
White shanty	189	53	--	1 mile.
A shanty	209	52	--	½ mile.
Tangent of land	217	43	--	½ mile.
Large red roof greenhouse	236	48	--	2½ miles.
Windmill	243	52	--	2¾ miles.
Gambrel of house	244	13	--	2½ miles.
Chimney of large greenhouse	254	24	--	2¼ miles.
Canning house stack	257	28	--	1¾ miles.
Canning house stack	275	26	--	1½ miles.
Near corner of Nanticoke wharf	284	49	--	1½ miles.
Large red roof white house	297	32	--	2½ miles.
Large red roof white house	299	24	--	2½ miles.
Right tangent of Nanticoke woods	310	15	--	3 miles.
Left tangent of Sandy Point	341	48	--	1½ miles.

OKAY.

Locality.—Western shore of Nanticoke River about ⅛ mile south of Swan Creek Cove on Marsh Point. (See Chart No. 11.)

Observed station is on marsh land about 2 feet above and 10 yards back from high-water mark. A shanty known as Insleys watch house stands about 35 yards north of observed station. No other permanent reference objects near station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
Bivalve Church (N 84° 32′ E)	0	00	00	2½ miles.
Chimney of red roof house	20	38	--	2½ miles.
Windmill tower	46	41	--	2½ miles.
Tangent of land	92	23	--	1¼ miles.

References—Continued.	°	′	″		
Tangent of land	105	45	--	------	150 yards.
Left side of watch house	249	17	--	------	35 yards.
Right side of watch house	258	17	--	------	35 yards.
Space between chimneys of large white house	340	43	--	------	3¼ miles.
Tangent of Bivalve wharf	355	31	--	------	2¼ miles.
Stack of canning house	359	12	--	------	2¼ miles.

AR.

Locality.—Western shore of Nanticoke River about 1¼ miles northwest by west of Bivalve wharf. (See Chart No. 11.)

Observed station is on marsh land between two small creeks about 40 yards back from high-water mark. It is about 43 yards northwest of the mouth of one creek, and 35 yards west-southwest of mouth of the other creek. No permanent objects near station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Nanticoke Church" (S 13° 34′ E)	0	00	00	------	3¾ miles.
Right edge Sandy Point woods	23	58	--	------	4 miles.
Smoke pipe of cabin near "Okay"	42	57	--	------	1½ miles.
Chimney on house	46	26	--	------	½ mile.
Left tangent of first woods	81	20	--	------	2¾ miles.
Left tangent of long thick woods	98	53	--	------	1 mile.
Left edge short thick woods	134	11	--	------	1 mile.
Chimney of red roof cabin	247	47	--	------	½ mile.
Houses with several gables	262	18	--	------	3 miles.
Right edge Wetipquin woods	274	37	--	------	2¼ miles.
Chimney of house behind trees	302	43	--	------	2 miles.
Windmill	319	03	--	------	2 miles.
Stack of canning house	320	15	--	------	2 miles.
Chimney of house on Ragged Point	350	33	--	------	2¾ miles.
Windmill	352	57	--	------	3¼ miles.

GOVER.

Locality.—Northwestern shore of Nanticoke River 1¾ miles west-northwest of entrance to Wetipquin Creek and ⅛ mile north of cove named Perch Haul. See Chart No. 11.)

Observed station is on a point of marsh covered with grass and water bushes, and is about 15 yards northwest from extreme end of point. A shanty stands among the bushes and small trees about 200 yards to the west-southwest. A clump of about 50 pine trees stands about ¼ mile west and another clump stands about ¼ mile northwest.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
Bivalve Church (S 21° 30′ E)	0	00	00	------	2¾ miles.
Tangent of land	35	24	--	------	1 mile.
Left side of opening in woods	72	06	--	------	2 miles.
Two pine trees together	83	07	--	------	¾ mile.
Center of shanty	98	26	--	------	200 yards.
Clump of pine trees	123	56	--	------	¼ mile.
Clump of pine trees	176	20	--	------	¼ mile.
Inside edge of cove	201	45	--	------	100 yards.
Clump of small pine trees	255	31	--	------	¼ mile.
Tangent to point of land	269	35	--	------	1½ miles.
Left tangent of Sandy Hill wharf	276	02	--	------	3 miles.
Large house	286	27	--	------	3¼ miles.
Left edge of pine woods near Wetipquin Creek	328	13	--	------	2 miles.

STREETT.

Locality.—Northwestern shore of Nanticoke River on point on southwest side of entrance to Jacks Creek. (See Chart No. 11.)

Observed station is on a marsh and grass point 7 yards west from its extreme end and about 4 yards from each side of point to north and south. Cement monument marking reference station is 11.89 meters west of observed station.

Marks.—Observed station is nail in pine stub flush with ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Earle" S 45° 01′ E)	0	00	00	------	1 mile.
A shanty	0	41	--	------	1 mile.
Large white house with red roof	27	08	--	------	2½ miles.
Canning-house stack at Tyaskin	33	42	--	------	1¾ miles.
Large white building	36	42	--	------	1¾ miles.
Point of marsh	47	33	--	------	100 yards.
First of four trees	135	01	--	------	½ mile.
REFERENCE STATION	164	39	00	------	11.89 meters.
Point of marsh	255	02	--	------	30 yards.
House on the other side of Jacks Creek	258	13	--	------	⅛ mile.
Left tangent of Sandy Hill wharf	309	38	--	------	1¼ miles.
White house	318	08	--	------	1¼ miles.

EARLE.

Locality.—Southeast shore of Nanticoke River about one mile below Sandy Hill wharf. (See Chart No. 11.)

Observed station is on sand and grass land between river and pine grove, and about 80 yards back and 5 feet above high-water mark. A white oak tree about 2½ feet in diameter stands between station and river and another and larger white oak tree stands about 15 yards to the northeast. There is a shanty about 20 yards to the west and a sand beach northwest of the station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Juliet" (S 41° 05′ W)	0	00	00	------	1¼ miles.
Nail in blaze in white oak tree (2½ feet in diameter)	88	44	30	------	13.98 meters.
Nail in blaze in pine tree	160	39	00	------	19.05 meters.
Nail in blaze in oak tree (2½ feet in diameter)	196	35	40	------	13.95 meters.
Nail in blaze in pine tree	326	01	00	------	15.76 meters.
Right tangent of woods on other side of Wetipquin Creek	358	52	--	------	1¼ miles.

JULIET.

Locality.—Eastern shore of Nanticoke River on point on southwest side of entrance to Wetipquin Creek. (See Chart No. 11.)

Observed station is on sand and marsh point about 100 yards southwest of entrance to Wetipquin Creek. It is about 10 yards back from high-water mark and about 5 yards outside of several small pine trees. Very dense pine woods stand about 100 yards to the south of the station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Earle" (N 41° 04′ E)	0	00	00	------	1¼ miles.
Nail in blaze in pine tree	29	41	30	------	4.92 meters.
Near point of roof of oyster house	40	05	--	------	300 yards.
Left edge of woods	64	21	--	------	200 yards.

References—Continued.	°	′	″	
Nail in blaze in pine tree	71	17	00	6.31 meters.
Nail in blaze in pine tree	98	20	00	6.88 meters.
Right edge of woods	163	52	--	200 yards.
Right tangent of Bivalve wharf	170	02	--	1½ miles.
Two-story white house	210	06	--	2½ miles.
Two-story white house with red roof	228	37	--	¾ mile.
Opening in woods	230	16	--	3 miles.
Gray house at Jacks Creek	324	00	--	1¾ miles.
Tangent of land	345	58	--	150 yards.
Tangent of land	354	49	--	150 yards.

POLE.

Locality.—Eastern shore of Nanticoke River on wharf off town of Bivalve, located about 1¼ miles northeast of Ragged Point. (See Chart No. 11.)

Marks.—Observed station is flagpole on western peak of a house on wharf at Bivalve about 300 yards from shore.

References.—None necessary.

BIVALVE CHURCH.

Locality.—Eastern shore of Nanticoke River about ⅜ mile back from shore in town of Bivalve on main road leading to the steamer landing. (See Chart No. 11.)

Marks.—Observed station s center of steeple on Bivalve Methodist Church.

References.—None necessary.

RAG.

Locality.—Eastern shore of Nanticoke River on northern side Ragged Point. (See Chart No. 11.) Observed station is on a sandy point about 25 yards back from high-water mark and 100 yards northeast from extreme end of point. A grove of pine trees stands about 50 yards to the east and two groups of pine trees about 20 and 75 yards to the northeast. Two pine trees each 15 inches in diameter and 2½ feet apart stand about 20 yards to the east of the station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
Nanticoke Church (S 1° 46′ E)	0	00	00	1¼ miles.
Left end of Sandy Point	29	17	--	3½ miles.
Chimney on house near "Cow"	51	48	--	2½ miles.
Large tree at left end of woods	130	20	--	3¼ miles
Left one of two trees (opposite shore)	169	56	--	3¼ miles.
Flag pole on Bivalve wharf	201	11	--	1¼ miles.
Smoke pipe on Bivalve wharf house	207	14	--	1¼ miles.
Nail in stump of limb on pine tree	218	35	--	32.78 meters.
Nail in blaze in double pine tree	258	01	--	19.66 meters.
Nail in blaze in large pine tree	293	26	--	43.19 meters.
Chimney on a white house	303	29	--	135 yards.
Windmill near large house	344	13	--	¾ mile.
Steeple on a barn	356	40	--	1 mile.
Large chimney on large flat-roof house	357	10	--	1 mile.

NANTICOKE CHURCH.

Locality.—Eastern shore of Nanticoke River in town of Nanticoke, about ¼ mile back from river and ¾ mile northeast of Roaring Point. (See Charts Nos. 11 and 12.)

Marks.—Observed station is center point of spire of church known as "Nanticoke Methodist Episcopal Church."

References.—None necessary.

CRAB.

Locality.—Upper end and western shore of Tangier Sound on eastern side of Bloodsworth Island about 2⅝ miles southeast of Sharkfin Shoal Light and about halfway between Piney Island Cove to north and Great Cove to south. (See Chart No. 12.)

Observed station is about 15 yards from high-water mark to the northeast and about 35 yards from the shore to the east. A small flat-roof crab house stands about 80 yards to the north-northeast and another crab house about twice the distance in the same direction.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Sharkfin Shoal Light" (N 45° 25′ E)	0	00	00	2⅝ miles.
Left end of large white house near Stump Point	6	11	--	7⅞ miles.
End of roof of white house on bluff	31	36	--	6¼ miles.
End of Deal Island wharf	53	03	--	3¾ miles.
Large white house near red roof house	72	35	--	4¼ miles.
Aspen tree near "Joshua"	88	06	--	5⅛ miles
Tall pine tree	165	00	--	1½ miles.
Near end of flat-roof shanty	288	32	--	80 yards.
Flag pole on Brown's crab house	299	01	--	150 yards.

SHARKFIN SHOAL LIGHT.

Locality.—Northern end of Tangier Sound about equally distant from entrances of Hooper Strait, Fishing Bay, and Nanticoke River. (See Chart No. 12.)

Marks.—Observed station is center point of black lantern on hexagonal screw pile known as "Sharkfin Shoal Light."

References.—

"Great Shoals Light" (N 81° 45′ E) ---------- 5⅞ miles.

HEAD.

Locality.—Upper end of Tangier Sound, on southern part of peninsula known as "Bishops Head," situated between Hooper Strait and Fishing Bay. (See Chart No. 12.)

Observed station is on eastern side of marsh land about ½ mile north of extreme southerly end of Bishops Head and about 15 yards east of two crab houses. It is about 15 yards southwest of high-water mark, behind water bushes which skirt the shore. Cement monument marking reference station is 13.41 meters west from observed station.

Marks.—Observed station is a nail in a pine stub flush with ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Sharkfin Shoal Light" (S 60° 41′ E)	0	00	00	2¾ miles.
Crab-house flagstaff	50	30	--	3¼ miles.
Large pine	97	42	--	2 miles.
REFERENCE STATION	139	55	40	13.41 meters.
Near gable of 2½-story white house	140	24	--	¼ mile.
Chimney on white house	156	44	--	⅛ mile.
Left side of crab house	166	38	--	17.31 meters.
Right side of crab house	199	54	--	16.11 meters.
Chimney on yellow house	208	28	--	1½ miles.
Chimney on end of white house	238	53	--	3 miles.
Right side of Nanticoke Point woods	326	56	--	7½ miles.

FROG.

Locality.—West shore of mouth of Nanticoke River, on the southeasterly point of Clay Island, known as "Frog Point." (See Chart No. 12.)

Observed station is on a marsh point about 25 yards back from extreme end of point, 20 yards from the east side and 25 yards from the west side. Water bushes abound back of station. There are no permanent reference objects near station. Cement monument marking reference station is 13.10 meters north of observed station.

Marks.—Observed station is nail in stub flush with ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Sharkfin Shoal Light" (S 41° 25′ W)	0	00	00	------	3⅛ miles.
Left tangent of Clay Island	35	17	--	------	1¼ miles.
REFERENCE STATION	141	45	50	------	13.10 meters.
Right tangent of Sandy Point	177	41	--	------	¾ mile.
Chimney on white house with black roof	179	12	--	------	2½ miles.
Chimney on near end of large red-roof white house	183	02	--	------	2½ miles.
Stack of canning house	184	36	--	------	2½ miles.
Land end of Nanticoke wharf	184	36	--	------	2¼ miles.
End of Nanticoke wharf house	186	00	--	------	2¼ miles.
Chimney on ell end of main part of large red-roof white house	211	27	--	------	2¼ miles.
Right tangent of Nanticoke Point woods	238	44	--	------	2¾ miles.
Large square chimney on white house (Dames Quarter)	264	17	--	------	4 miles.
Rock Creek poplar tree	284	17	--	------	3½ miles.
Flagstaff on Deal Island wharf	322	09	--	------	4¾ miles.

ROAR.

Locality.—Eastern shore of Nanticoke River on point of land known as Roaring Point, and about ¼ mile north from outer end of Roaring Point wharf. (See Chart No. 12.)

Observed station is 30 yards to the east of the extreme end of the point and on a sandy knoll about 5 feet above high-water mark. It is about 20 yards back from high-water mark on the north side and about 40 yards back from high-water mark on south side of the point. Pine woods stand about 150 yards inshore from station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Frog" (S 39° 02′ W)	0	00	00	------	2¼ miles.
Two shanties	19	17	--	------	2 miles.
One shanty	30	20	--	------	1¾ miles.
A shanty	71	32	--	------	1¼ miles.
White shanty	98	53	--	------	1¾ miles.
Barn steeple	117	41	--	------	4¼ miles.
White shanty behind "Okay"	121	25	--	------	2¾ miles.
Red roof house	144	42	--	------	7½ miles.
Twin trees on Ragged Point	159	30	--	------	2 miles.
Chimney on white house	175	23	--	------	1½ miles.
Windmill	184	04	--	------	1 mile.
Gambrel roof house	184	32	--	------	1 mile
White canning house stack	195	11	--	------	¼ mile.
Land end of wharf	271	58	--	------	¼ mile.
Large house	293	38	--	------	1¼ miles.
Right tangent of Nanticoke Point woods	297	22	--	------	2½ miles.
Right tangent of Nanticoke wharf	304	52	--	------	⅜ mile.
Left tangent of Sandy Point	359	51	--	------	1¾ miles.

NANTI.

Locality.—Eastern side of entrance to Nanticoke River about ½ mile northwest of Nanticoke Point. (See Chart No. 12.)

Observed station is on grassy land about 2 feet above and 20 yards back from high-water mark. It is about midway between edge of woods on Nanticoke Point and unpainted house near poplars ¼ mile to the north.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Sharkfin Shoal Light" (S 65° 14′ W)	0	00	00	5 miles.
Tangent of Sandy Point	51	33	--	2¼ miles.
Left end of Nanticoke wharf	89	45	--	2 miles.
Near chimney of red roof house	96	51	--	¾ mile.
Chimney of unpainted house	101	08	--	¼ mile.
Near chimney of house nearest woods	116	56	--	¼ mile.
Tree high above woods	119	53	--	2½ miles.
Right end of heavy woods	134	03	--	1¼ miles.
Right end of scant woods	147	11	--	¾ mile.
Wild cherry tree	178	24	--	50 yards.
Left end of woods	227	46	--	¼ mile.
Right end of woods	269	45	--	¼ mile.
Poplar tree Dames Quarter	307	28	--	2¾ miles.
Tangent of Haines Point	330	55	--	4½ miles.

WHITE.

Locality.—Eastern shore of entrance to Nanticoke River on western part of Nanticoke Point. (See Chart No. 12.)

Observed station is on a sand and grass point about 2 feet above high-water mark, 3 yards from the west side, 15 yards from the south end, and 20 yards from southeast side. Dense pine woods stand about 100 yards to the northwest, open marsh to the northeast, and a clump of about a dozen pine trees in marsh about ⅜ mile to the northeast. There is a cove about 40 yards east of the station and another point of land about 100 yards to the southeast. Cement monument marking reference station is 16.63 meters north of observed station.

Marks.—Observed station is a nail in a pine stub about 6 inches below surface or ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Great Shoals Light" (S 44° 16′ E)	0	00	00	1¼ miles.
Poplar tree at Dames Quarter	65	08	--	2½ miles.
Tangent of Hall Point	86	06	--	3¾ miles.
Tangent of Sandy Point	164	17	--	3 miles.
Left end of pine woods	172	27	--	100 yards.
Right end of pine woods	213	21	--	150 yards.
REFERENCE STATION	227	29	00	16.63 meters.
Largest tree in clump of about 12 pines	247	23	--	⅜ mile.
Chimney on cabin on Ellis Point	279	05	--	2 miles.
White house	311	54	--	½ mile.
Point of land	335	02	--	100 yards.

ELLA.

Locality.—North shore of Wicomico River on point at east side of entrance to Ellis Bay. (See Chart No. 12.)

Observed station is on a marsh point about 1 foot above high-water mark. It is about 10 yards back from the shore to the west, 20 yards back from the shore to the south, and 20 yards back from the shore to the north. No permanent reference objects near station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Great Shoals Light" (S 9° 49′ W)	0	00	00		2 miles.
Tangent of land on Mollies Point	5	14	--		1 mile.
Watch house	26	10	--		½ mile.
Left of woods on Nanticoke Point	44	23	--		1½ miles.
Right of woods on Nanticoke Point	52	33	--		1¼ miles.
Chimney of white house	135	45	--		2 miles.
Chimney of gray house	142	43	--		2 miles.
Chimney of white house	249	27	--		200 yards.
Mount Vernon Church	257	58	--		2¾ miles.
Chimney on middle of white house	274	28	--		1¼ miles.
Chimney on cream and brown house	290	49	--		1 mile.
Chimney on brown house	291	03	--		1 mile.
Smoke pipe of watch house	306	57	--		1 mile.

HOLLAND.

Locality.—North shore of Wicomico River on Holland Point about 1¼ miles west of Mount Vernon Church, and 1¼ miles east of Ellis Bay. (See Chart No. 12.)

Observed station is on a marsh point about 20 yards north of high-water mark on its extreme end and about 100 yards west of a creek. A small cabin stands about 200 yards to the west.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Wind" (S 28° 35′ W)	0	00	00		1¼ miles.
Great Shoals Light	4	34	--		2¾ miles.
Tangent of Mollies Point	18	39	--		2 miles.
Left tangent of woods on Nanticoke Point	34	33	--		2¾ miles.
Right tangent of woods on Nanticoke Point	39	28	--		2¾ miles.
Chimney of house near Ellis Bay	46	19	--		1¼ miles.
Chimney of cabin	56	14	--		200 yards.
Chimney on left end of large red roof building	91	56	--		3 miles.
Large chimney on white house	188	31	--		1¼ miles.
Chimney of slate-colored house	230	43	--		1¼ miles.
Chimney on middle of light-blue house	240	48	--		1 mile.
Chimney on 2½-story light-green house	266	41	--		¾ mile.
Right chimney on white house	317	29	--		½ mile.

CHILD.

Locality.—North shore of Wicomico River about ⅞ mile north of Mount Vernon Church. (See Chart No. 12.)

Observed station is on marsh land about 2 feet above and 15 yards back from high-water mark. There is an old wharf about 300 yards to the east and at a point about 100 yards to the north, two creeks join and form a single creek about 20 feet wide which flows into the river at a point about 15 yards west of observed station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Mount Vernon Church" (S 10° 15′ E)	0	00	00		⅞ mile.
Chimney on white house in woods on opposite shore	3	23	--		¾ mile.
Chimney on white house on sand bluff on opposite shore	15	32	--		⅝ mile.
Smoke pipe on large white house	19	55	--		¾ mile.
Chimney on brown house	48	14	--		1½ miles.

References—Continued.	°	′	″	
Great Shoals Light	49	33	--	3¾ miles.
Tangent of Holland Point	62	44	--	1¼ miles.
Fork of creek	183	08	--	100 yards.
Chimney of large house	206	39	--	2 miles.
Chimney of another large house	238	43	--	¾ mile.
Mount Vernon wharf smoke pipe	293	12	--	1½ miles.
Large white house in woods	324	03	--	¾ mile.
Cream-colored house in woods	345	47	--	½ mile.

CREEK.

Locality.—North shore of Wicomico River about ¾ mile northwest of Mount Vernon wharf and about 1⅜ miles northeast of Mount Vernon Church. (See Chart No. 12.)

Observed station is on a marsh grass and sand point making out to the south and about 10 yards from the high-water mark of each of the three sides of the point. About 10 yards west of observed station is the mouth of a creek or drain 10 feet wide which runs only a short distance inland. There are several unpainted houses within 200 yards of observed station and a lone pear tree stands about 200 yards to the north. There is a cultivated field about 150 yards back of station which extends to edge of woods ¼ mile distant.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Mount Vernon Church" (S 30° 39′ W)	0	00	00	1⅜ miles.
Chimney on light-blue house with red blinds	13	46	--	1¼ miles.
Lone tree	72	59	--	1 mile.
Chimney of old unpainted house	108	18	--	300 yards.
Chimney of light-green trimmed house	135	15	--	200 yards.
Pear tree	159	48	--	200 yards.
Left chimney of cream-colored house	218	06	--	300 yards.
Tangent of cove	224	--	--	30 yards.
Smoke pipe on Mount Vernon wharf	282	34	--	¾ mile.
Chimney outside yellow house	312	04	--	⅝ mile.
Chimney on slate-colored house	352	57	--	¾ mile.

END.

Locality.—North shore of Wicomico River opposite Mount Vernon wharf. (See Chart No. 12.)

Observed station is on marsh land about 3 feet above and about 100 yards north of high-water mark in river and about 75 yards to the northwest of a large creek which runs about 2 miles inland. Water bushes skirt shore around station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Jones" (S 60° 33′ W)	0	00	00	¾ mile.
Chimney on white house	7	24	--	1 mile.
Tangent of land	12	28	--	1 mile.
Near chimney of cream-colored house	68	25	--	½ mile.
Cupola on red barn	155	21	--	¾ mile.
Old-style windmill	163	26	--	¾ mile.
Chimney of Whitehaven Hotel	171	09	--	1¼ miles.
Webster's canning house	252	28	--	¼ mile.
Right-hand chimney on gray house	273	42	--	½ mile.
Left side of Mount Vernon wharf	294	13	--	¼ mile.
Stack of Dashiell's canning house	304	52	--	⅜ mile.
Middle attic window of white house	328	54	--	¼ mile.
Chimney outside of yellow house	352	12	--	¼ mile.

WALNUT.

Locality.—South shore of Wicomico River about 175 yards east of Mount Vernon wharf. (See Chart No. 12.)

Observed station is on marsh land about 17 feet from shore and 50 yards west of a small creek. Several large walnut and locust trees stand about 250 yards south of station and 2 houses and 2 sheds about 250 yards to the southwest.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Jones" (S 83° 49′ W)	0	00	00	------	¾ mile.
Right side of Mount Vernon wharf house	17	18	--	------	175 yards.
Chimney outside of white house	46	52	--	------	1 mile.
Left chimney of gabled house	53	47	--	------	1 mile.
Old-style windmill	121	00	--	------	½ mile.
Left end of roof of Whitehaven wharf	136	18	--	------	1½ miles.
Chimney on Whitehaven Hotel	136	40	--	------	1½ miles.
Opening between pair of pine trees near Whitehaven	140	--	--	------	1½ miles.
Stack of Webster's canning house	187	38	--	------	300 yards.
Opening between two walnut trees	274	--	--	------	200 yards.
Chimney of Whitlock's house	307	37	--	------	250 yards.
Stack of Dashiell's canning house	352	23	--	------	400 yards.

JONES.

Locality.—South shore of Wicomico River about ¾ mile west of Mount Vernon wharf. (See Chart No. 12.)

Observed station is on a knoll about 25 feet above and 30 yards to south of high-water mark, and about 200 yards to the east of a cove. The knoll on which the station is located is the highest point on the shore in this locality. Several small cabins stand to the northward about 25 yards, and a large lone cedar tree about 35 yards to the southwest.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Ivee" (S 78° 54′ W)	0	00	00	------	¾ mile.
Large square chimney on four-gable house	10	05	--	------	¼ mile.
Cedar tree	11	22	--	------	25 yards.
Tangent of point of land	34	54	--	------	⅛ mile.
Nail in blaze in cedar tree	62	26	--	------	20.30 meters.
Chimney on light-green house on opposite shore	102	33	--	------	¾ mile.
White cupola in Whitehaven	148	53	--	------	2¼ miles.
Old-style windmill	153	31	--	------	1½ miles.
Whitehaven Hotel chimney	155	48	--	------	2¼ miles.
Large chimney on yellow house	178	37	--	------	¼ mile.
Chimney on end of brown house	216	37	--	------	¼ mile.
Chimney on white house	266	42	--	------	¼ mile.
Weeping willow	307	55	--	------	¼ mile.
Nail in blaze in cedar tree	318	30	--	------	31.10 meters.

IVEE.

Locality.—Southeast shore of Wicomico River about ¼ mile northwest of Mount Vernon Church. (See Chart No. 12.)

Observed station is on grass land about 1 foot above and 10 feet back from high-water mark. A small cove makes in about 100 yards east of station. A small lone pine stands about 110 yards to

the east-southeast, and a sand bluff with pine trees about 100 yards to the southwest. Beyond the woods along the beach is a bluff 15 feet high upon which are several houses.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Mount Vernon Church" (S 22° 37′ E)	0	00	00	------	⅜ mile.
White house chimney	55	35	--	------	¼ mile.
Chimney on end of white house	209	55	--	------	2 miles.
Chimney of green-trimmed house near "Creek"	245	28	--	------	1¼ miles.
Old-style windmill	264	47	--	------	2⅜ miles.
Slate-colored house	276	22	--	-- --	½ mile.
Chimney on middle of white house beyond woods	297	11	--	------	1 mile.
Lone pine tree	317	53	--	------	110 yards.

MOUNT VERNON CHURCH.

Locality.—Southeast side of Wicomico River about ⅜ mile back from the shore 1½ miles southwest of Mount Vernon wharf. (See Chart No. 12.)

Observed station is on main road in Mount Vernon and is situated on the highest point in the vicinity.

Marks.—Observed station is center of steeple of Mount Vernon Methodist Church.

References.—None necessary.

BALL.

Locality.—Southeast shore of Wicomico River on a point of land about 1 mile northeast of Wingate Point. (See Chart No. 12.)

Observed station is on a sand and grass point making out about 100 yards west of a sand bluff. A small creek empties into the river about 10 yards to the east, and three poplars stand about 100 yards to the south. The extreme northern end of the point is about 35 yards from station and the western side is about 10 yards.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Holland" N 20° 03′ W)	0	00	00	------	½ mile.
Middle one of five pines	107	09	--	------	100 yards.
Chimney on John Withlock's house	137	57	--	------	100 yards.
Left end of pine woods	145	33	--	------	½ mile.
Right end of pine woods	165	04	--	------	½ mile.
Chimney on white house	183	32	--	------	¼ mile.
Third poplar	209	04	--	------	100 yards.
Chimney of brown house	248	27	--	------	½ mile.

WIND.

Locality.—Southeast shore of Wicomico River about ¼ mile north of southern end of Wingate Point. (See Chart No. 12.)

Observed station is about 30 yards from high-water mark of Wicomico River on the north side and 20 yards from the west side. An oyster watchhouse stands about 100 yards to the east of the station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Great Shoals Light" S 36° 29′ W)	0	00	00	------	1½ miles.
Tangent of Mollies Point	33	35	--	------	1 mile.
Left end of woods	46	12	--	------	1¾ miles.
Right end of woods	51	45	--	------	1¾ miles.
Tangent of Ellis Point	102	47	--	------	1 mile.
White house in woods	157	19	--	------	3 miles.
Smoke pipe on watchhouse	185	49	--	------	100 yards.
Chimney of brown house	203	38	--	------	½ mile.

References—Continued.	°	′	″	
Chimney of cream-colored house with brown trimmings	215	34	00	½ mile.
Watchhouse	308	41	--	¼ mile.
Chimney on 2½-story house	342	18	--	3 miles.
Chimney on end of white house Dames Quarter	350	57	--	2½ miles.

LITTLE.

Locality.—Southern shore of Monie Bay on second prominent point of marsh about ¼ mile to the west entrance to Little Monie Creek. (See Chart No. 12.)

Observed station is on a marsh point covered with water bushes and reeds. It is about 1 foot above high-water mark, 7 yards from the west side, 10 yards from the east side, and about 50 yards from extreme end of point. No permanent reference objects near station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Great Shoals Light" (S 83° 43′ W)	0	00	00	2¼ miles.
Left side of woods on Nanticoke Point	19	34	--	3¼ miles.
Right side of woods on Nanticoke Point	22	24	--	3¼ miles.
Tangent of Wingate Point	34	39	--	1¾ miles.
Chimney on red roof white house	60	13	--	1½ miles.
Chimney on near end of white house with brown trimmings	62	02	--	1½ miles.
Chimney on red roof white house with green blinds	62	43	--	1⅝ miles.
Left chimney of yellow house trimmed white	79	52	--	1¼ miles.
Middle of woods	80	--	--	1¾ miles.
Large brown house	93	55	--	1¾ miles.
Mount Vernon Church	102	42	--	1¾ miles.
Tangent of point of land	165	47	--	¼ mile.
Tangent of point of land	320	16	--	75 yards.
Tangent of land	346	47	--	3 miles.

DOVE.

Locality.—South shore of Monie Bay and about ¼ mile east of entrance to Pigeon Creek. (See Chart No. 12.)

Observed station is on marsh land about 10 yards back from high-water mark not far from water bushes which stand to the east. Cement monument marking reference station is 13.98 meters southeast from observed station. No permanent reference objects near station.

Marks.—Observed station is a nail in pine stub flush with ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Great Shoals Light" (N 57° 41′ W)	0	00	00	1¾ miles.
Left side of Nanticoke Point woods	6	56	--	2¾ miles.
Left side of Roaring Point heavy woods	19	29	--	5 miles.
High lone pine showing above woods	23	36	--	5 miles.
Tangent of Wingate Point	52	52	--	2 miles.
Chimney of red roof house	67	39	--	2 miles.
Chimney on yellow house with red gable roof	84	12	--	3 miles.
Mount Vernon Church	86	37	--	3¼ miles.
Tangent of land	106	38	--	300 yards.
REFERENCE STATION	202	35	50	13.98 meters.
Chimney of white house with dark red trimmings	245	21	--	1¾ miles.

GREAT SHOALS LIGHT.

Locality.—Middle of entrances to Monie Bay and Wicomico River about halfway between Long Point to the south and Mollies Point to the north. (See Chart No. 12.)

Marks.—Observed station is center of black lantern on square screw pile structure known as "Great Shoals Light."

References.—

"Sharkfin Shoal Light" (S 81° 50′ W)..... 5⅞ miles.

SHORT.

Locality.—Southern shore of entrances to Monie Bay and Wicomico River on Long Point and about 1 mile south-southwest from Great Shoals Light. (See Chart No. 12.)

Observed station is on a sandy knoll on eastern side of entrance to Dames Quarter Creek about 15 feet back from high-water mark on the north side and about 30 feet from east side of point It is on the highest part of the knoll which is about 5 feet above high-water mark.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Sharkfin Shoal Light" (S 89° 03′ W).....	0	00	00	5⅜ miles.
Tile pipe in cement ("Long" 1901).....	23	57	45	63.703 meters.
Nanticoke wharf.....	67	57	--	4⅛ miles.
Left side of Nanticoke woods.....	69	13	--	2 miles.
Yellow house with red blinds.....	74	53	--	3½ miles.
Left tangent of Wingate Point.....	124	13	--	2⅜ miles.
Chimney on red roof white house.....	132	39	--	3 miles.
Near chimney of yellow house.....	136	40	--	3 miles.
Chimney on red trimmed house.....	212	49	--	2 miles.
Left tree at Dames Quarter.....	260	37	--	¼ mile.
Chimney on white barn.....	279	45	--	300 yards.
Left chimney on white house.....	320	05	--	200 yards.
Chimney on yellow house.....	341	35	--	200 yards.

ROOM.

Locality.—Upper end and eastern shore of Tangier Sound on Halls Point. (See Chart No. 12.)

Observed station is on a bluff 15 feet high about 5 yards back from its edge. It is about 25 yards east of a clump of mulberry trees and about 15 yards north-northwest of a barn. Locust and mulberry trees stand all about station and locust bushes along the edge of the bluff. A wagon trail runs parallel to the shore about 15 yards back of station. Cement monument marking reference station is 21.45 meters south-southwest of observed station and almost in line with a large mulberry tree.

Marks.—Observed station is nail in center of stub with top flush with ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″	
"Sharkfin Shoal Light" (N 70° 00′ W).....	0	00	00	2½ miles.
Gable on near side of red roof on white house on Bishops Head.....	3	01	--	5½ miles.
Near end of roof of large 2½-story house..	12	53	--	7¼ miles.
Left tangent of Clay Island.....	39	18	--	3½ miles.
Left side of Sandy Point woods.....	70	08	--	4 miles.
Roaring Point wharf.....	85	22	--	5 miles.
Near chimney on end of large red roof white house.....	94	36	--	4¼ miles.
Right side of Nanticoke woods.....	110	28	--	3¾ miles.
Mount Vernon Church.....	127	18	--	7 miles.
Near corner of barn.....	137	06	--	15.96 meters.

References—Continued.	°	′	″		
Right-hand corner of barn	152	08	--	------	18.11 meters.
REFERENCE STATION	268	30	00	------	21.45 meters.
Large cedar tree	276	30	--	------	100 yards.
Two-inch iron pipe	279	38	30	------	9.21 meters.

HAINES.

Locality.—Upper end and eastern shore of Tangier Sound on Haines Point, about 5⅛ mile north of Deal Island wharf. (See Chart No. 12.)

Observed station is on sand and grass point about 20 yards back and 5 feet above high-water mark. Locust and water bushes stand about 20 yards to the north and the left edge of this clump is about on line with Sharkfin Shoal Light. A barbwire fence runs 3 yards east of station. Cement monument marking reference station is 9.64 meters east of observed station.

Marks.—Observed station is nail in pine stub in center of a drain tile with top broken off below surface. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Sharkfin Shoal Light" (N 45° 58′ W)	0	00	00	------	2½ miles.
Left of bushes	39	57	--	------	20 yards.
Left of Sandy Point woods	53	38	--	------	4¾ miles.
Chimney of 2½-story white house trimmed with red	75	04	--	------	½ mile.
Chimney of unpainted house	85	49	--	------	350 yards.
Chimney on end of red cottage trimmed white	99	00	--	------	¾ mile.
REFERENCE STATION	123	40	40	------	9.64 meters.
Pine tree	148	37	30	---	2.14 meters.
Large square chimney on red house	152	49	--	------	400 yards.
Right one of 5 large pines	184	40	--	------	300 yards.
Half way between chimneys on store on Deal Island	213	08	--	------	¾ mile.
Deal Island Church	217	00	--	------	1½ miles.
Black gum tree	223	49	--	------	6.70 meters.
Right end of Deal Island wharf	234	10	--	------	½ mile.
Hooper Straits Light	343	34	--	------	7½ miles.

DEAL ISLAND CHURCH.

Locality.—Deal Island on main road about ¼ mile from the shore and about ¾ mile south of Laws Thoroughfare. (See Chart No. 12.)

Marks.—Observed station is center of steeple on Deal Island Methodist Church.

References.—None necessary.

BAR.

Locality.—Eastern shore of Tangier Sound on western side of Deal Island, about 1 mile northwest of entrance to Lower Thoroughfare and ½ mile south of Middle Creek. (See Chart No. 12.)

Observed station is about 10 yards east of high-water mark on sand and grass land back of sandy beach. The first of many tree stumps which are submerged at high water commence about 100 yards to the north and cat-tails grow abundantly back of station. Cement monument marking reference station is 6.09 meters east of observed station.

Marks.—Observed station is a nail in pine stub flush with ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Sharkfin Shoal Light" (N 19° 40′ W)	0	00	00	------	4½ miles.
Tangent of Haines Point	27	29	--	------	2½ miles.

References—Continued.	°	′	″		
Flag pole on large building on Deal Island wharf	28	45	--	------	2 miles.
Middle chimney of large gray building	37	41	--	------	1 mile.
Chimney on white house	59	54	--	------	400 yards.
Middle chimney on red roof white house	79	51	--	------	⅜ mile.
REFERENCE STATION	107	10	00	------	6.09 meters.
Chimney on white house	118	43	--	------	400 yards.
Chimney on dark gray house	161	57	--	------	300 yards.
Right chimney on white four-gabled house with red roof	176	39	--	------	½ mile.

BOUNDARIES OF OYSTER BARS.

EXPLANATION OF DESCRIPTION OF BOUNDARIES.

The oyster bars of Wicomico County are 15 in number, and their total area, as marked out by buoys placed by the hydrographic engineer of the Commission, is 1,638 acres. As provided by law, the boundaries of the oyster bars are all straight lines, but they inclose areas of all shapes from triangles to complicated eight-sided figures, and of all sizes from 1,123 acres to 4 acres.[a] The sides vary in length from 120 to 3,800 yards, and in some cases the corners of the boundaries are practically at the triangulation stations from which they are located, while in other instances they are over 7,500 yards from the landmarks most available for the purpose of fixing their positions.

The varied characteristics of the legal boundaries of the oyster bars indicated by the above statement, together with the complicated requirements of the law under which the survey has been made and the magnitude of the work with the consequent need of fixed and uniform methods, have made the problem of describing the boundaries one of considerable difficulty and importance.

The boundaries of the oyster bars of Maryland, as established by the Shell Fish Commission and delineated on the Coast and Geodetic Survey charts and projections and on the leasing charts of the Commission, are technically defined and described by a method somewhat different from that used in other oyster surveys. But it is believed that the forms finally adopted will fulfill all needs of the survey for both the present and future.

The descriptions have been arranged in tabular form, thus avoiding many hundred repetitions of the same words by making one explanation of the tables sufficient for all oyster bars in the county.

At the top of each tabular form is given the legal name of the oyster bar to be described, its general locality, and the serial number of the "Charts of Oyster Bars" of Maryland on which its legal boundaries are shown.

The first column, under the heading of "Corner of bar," gives the number corresponding to the corner of the boundary as shown on the charts and to the number on the buoy marking the actual corner of the bar. The numbers of the corners have been assigned by naming the southernmost point No. 1, thence proceeding in a clockwise direction around the bar; but where a corner of one oyster bar is identical with the corner of the boundaries of one or more other oyster bars only the number of the corner of the oyster bar being described in the table is given in this column.

The second and third columns, under the headings of "Latitude" and "Longitude," give the geographic positions of the corners. These positions have been adopted by the

[a] For similar statistics for other counties that have been surveyed, see Appendix C of this publication.

Commission as the primary technical definition of the corners, and should be considered as final in case of a dispute arising from discrepancies caused by other means of location. The latitudes and longitudes given in these columns are based on the United States standard datum of the Coast and Geodetic Survey, and the points thus defined can be relocated from distant triangulation stations of the Survey, even though all the landmarks and buoys originally used for their location have been destroyed by natural causes or by acts of vandals desiring to defeat the purposes of the oyster laws of Maryland.

The fourth and fifth columns, under the general heading of "True bearing"[a] and the specific headings "Forward" and "Back," give bearings measured from a true north-and-south line. The three "Forward" bearings are from the corner of the boundary designated in the first column to the triangulation stations named on the corresponding lines in the last column, and the three "Back" bearings are from these same stations in the last column to the corresponding corner of boundary in the first column. The difference in minutes of arc between the forward and back bearings shown in some cases is actual and not accidental, and is due to the fact that the computations took into account the spheroidal shape of the earth.

The sixth column, under the heading of "Distance," gives the three computed distances in yards from the corner of the bar noted in the first column to the three triangulation stations named on the corresponding lines in the last column, and vice versa.

The seventh and last column, under the heading of "U. S. C. & G. S. triangulation station," [b]gives the names of the landmarks from which were computed the corresponding "Latitude," "Longitude," "True bearing," and "Distance" of the "Corner of the bar" designated in the first column. A full description of the location and markings of these triangulation stations is given in another part of this publication, under the heading of "Descriptions of triangulation stations."

SURVEYING METHODS FOR RELOCATION OF BOUNDARIES.

There are a number of methods that can be used in the relocation of the actual boundaries of the natural oyster bars as technically described in this publication and delineated on the published charts of the Coast and Geodetic Survey and the leasing charts of the Shell Fish Commission.

The following brief descriptions of five of these more or less different methods assume a certain amount of experience and knowledge on the part of the engineer in the particular kind of surveying under consideration, and are only intended as reminders of ways and means that can be used.

There are two problems that are likely to present themselves to those interested in the boundaries of natural oyster bars. One, to determine whether the buoys marking the corners have been dragged or otherwise moved from their correct positions, and the other, to relocate or reestablish a buoy at the point from which it was removed. The different ways of solving these two problems partly depend upon the instruments possessed by the engineer and his assistants and partly on his training and experience.

[a] The mean magnetic variation for Wicomico County is 5° 45′ west of north (1908), and is increasing at the rate of 3′ yearly.

[b] Geographic positions of these triangulation stations can be obtained by application to the Superintendent of the Coast and Geodetic Survey at Washington.

(1) *Triangulation.*—This method is the one that will give the greatest accuracy, but on account of its requiring special data and instruments, and being an operation rarely used by engineers not engaged in geodetic surveying, it is recommended only for cases in dispute that can not be settled satisfactorily by some other method. An explanation of this class of work would be too long for a report of this sort, and those not familiar with this method are referred to the publications on the subject by the Coast and Geodetic Survey.

(2) *Hydrographic.*—This method is the most simple and satisfactory one that can be adopted if the surveyor can obtain the use of the necessary instruments and assistants. It is the one best suited for the work of the engineers of the Commission in relocating corners of boundaries, as it gives results of the accuracy ordinarily required and is rapid in execution. Besides, it has the advantage of being available whenever three triangulation stations of suitable relative positions are visible from the offshore points needing relocation.

Most navigators and others familiar with the use of a sextant are well acquainted with the graphic three-point method of fixing a position on water, and only a brief description of the operation will be stated.

In the case where there is only one engineer having a single sextant, the three-point method can be used if the two angles determining the position of a buoy are first derived from the "Forward" bearings given in the tabular forms describing the boundaries of the oyster bars. For example, take "Upper Stake" bar, which is the first one described in this publication, and assume that "Corner No 3," is to be examined as to its position. The angle between the two landmarks "Juliet" and "Earle" as determined from right to left from the forward bearings from this corner is 92° 57′ and the angle between "Earle" and "Streett" is 66° 51′. Having these two angles, the engineer proceeds to the buoy of doubtful location and measures the actual sextant angles between the landmarks for which the calculations were made. If the measured and calculated angles do not agree the buoy is not in its correct position and the boundary corner must be relocated. This is accomplished by moving the boat about until a point is reached where the angles do agree, and this point being the desired location, the buoy can be placed in its correct position.

If the engineer can obtain the use of both a sextant and a three-arm protractor ("position finder"), the availability of the hydrographic method is increased, as the use of the protractor is essential in case of the washing away or destruction of one or more of the landmarks originally used in describing the boundaries. Under these circumstances, any three landmarks of suitable relative position that are visible from the point to be located can be utilized. For example, the engineer can proceed to the buoy of doubtful position and measure the two adjacent sextant angles between the three landmarks selected. These two angles are set off on the three-arm protractor and the actual position of the buoy plotted on the chart by shifting the protractor about until the edge of each of the three arms passes through the center of the symbols on the chart marking the position of the three landmarks selected. The center of the hub of the protractor will indicate on the chart the actual position of the buoy, and if the point thus obtained does not coincide with the true position of the corner of the boundary as given on the chart, the surveyor can proceed to locate the buoy correctly by reversing the operation. This is done by placing the center point of the hub of the

protractor over the corner of the boundary in question and measuring on the chart the two adjacent protractor angles between the three selected landmarks. One of the angles thus obtained is set on the sextant and the boat moved about until the two landmarks are shown by the sextant to subtend the same angle obtained from the protractor. The second angle is then placed on the sextant and the same operation gone through, and so on, first using one angle on the sextant then the other until a point is reached where both observed sextant angles are practically identical with the protractor angles. The point thus located is the desired one and the buoy can be placed to mark the true position of the corner of the boundary in question.

If the engineer possesses two sextants and a protractor, this problem is far easier of solution, as the two angles can be set off on separate sextants and the observer can quickly find the desired point where they agree with the protractor angles by using one sextant after the other without the need of resetting either.

If there are two observers, two sextants, and a protractor, it can be seen that the best conditions for both rapid and accurate hydrographic locations of points are attained; in fact, this is the method by which the buoys at the corners of the boundaries were originally placed by the hydrographic engineer to the Commission.

(3) *Magnetic bearings from offshore.*—This method of fixing a position on water is a simple and well-known one in navigation. It is available to anyone having a boat compass and will be of special use to the State fishery force in investigating cases where buoys are supposed to have been moved for illegal purposes.

In the case where a buoy is supposed to have been moved from its true position the observer takes compass bearings to the three landmarks given in the last column of the tables opposite the boundary corner in question. These bearings are then corrected for the local declination,[a] and if the results agree with the published bearings the buoy is correctly located.

In the case where the buoy is not in its correct position, or has disappeared altogether, the desired point can be determined by maneuvering the vessel until the corrected bearings agree with the ones in the tabular descriptions, when the buoy can be anchored in its proper location.

In the case where the landmarks for which the bearings are published have been destroyed or washed away, any landmarks whose positions are indicated on the charts can be used by getting their bearings directly from the chart by parallel rulers or a protractor and then applying them in the same manner as the ones published in the tables.

(4) *Magnetic bearings from shore.*—This method will be of special value to engineers having an ordinary surveyor's compass. The compass can be set over the point marking a "triangulation station" on shore, the name of which is given in the last column opposite the "corner" in question. The instrument is then set at the corresponding "back" bearing (corrected for local magnetic declination) given in the fourth column of the tables opposite the "corner" in question, and the direction thus determined will give one range on which the desired point must be located. The compass can then be moved to a second triangulation station and another range located in a similar manner. The intersection of these two range lines will give the desired point; but in general it should be checked by an additional range line determined from a third station.

[a] The mean magnetic variation for Wicomico County is 5° 45′ west of north (1908) and is increasing at the rate of 3′ yearly.

(5) *Horizontal angles measured at landmarks.*—This process is a modification of the triangulation method, and will be useful to engineers who have a transit and desire considerable accuracy.

The instrument is placed over a "triangulation station," the name of which appears in the last column of the tabular description opposite the "corner" in question. The telescope is then pointed to the landmark indicated in the "Descriptions of landmarks" as having a direction of 0° 00′ 00″ from the triangulation station being occupied by the transit. The tabular description of the boundaries is next examined and the "back" bearing of the questionable boundary "corner" from the landmark being occupied is taken out. The angle calculated from this "back" bearing and the bearing given in parentheses alongside the zero landmark in the "Descriptions of landmarks" is then set off on the transit, and a range line established on which the desired point must be located. A similar process is then carried on at a second station, and so on until the position of the buoy is satisfactorily fixed.

BOUNDARIES OF NATURAL OYSTER BARS.

UPPER STAKE.

(*Nanticoke River—Chart No. 11.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 20 06.36	75 52 59.76	S 0 01 E	N 0 01 W	811	Juliet.
			N 59 07 E	S 59 08 W	1718	Earle.
			N 3 51 E	S 3 51 W	2209	Streett.
2	38 20 08.36	75 53 06.16	S 11 10 E	N 11 10 W	895	Juliet.
			N 63 45 E	S 63 46 W	1834	Earle.
			N 8 28 E	S 8 28 W	2160	Streett.
3	38 20 22.41	75 53 07.20	S 8 27 E	N 8 27 W	1366	Juliet.
			N 78 36 E	S 78 36 W	1706	Earle.
			N 11 45 E	S 11 45 W	1703	Streett.
4	38 20 19.59	75 52 32.41	N 59 59 E	S 59 59 W	864	Earle.
			N 78 39 W	S 78 40 E	3169	Gover.
			S 29 56 W	N 29 56 E	1449	Juliet.

WETIPQUIN.

(*Nanticoke River—Chart No. 11.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 19 47.59	75 53 16.03	S 67 52 E	N 67 53 W	470	Juliet.
			N 51 35 E	S 51 36 W	2433	Earle.
			N 48 52 W	S 48 52 E	2587	Gover.
2	38 20 01.90	75 53 21.70	S 41 37 W	N 41 37 E	883	Juliet.
			N 63 25 E	S 63 26 W	2300	Earle.
			N 55 51 W	S 55 52 E	2173	Gover
3	38 20 08.36	75 53 06.16	S 11 10 E	N 11 10 W	895	Juliet.
			N 63 45 E	S 63 46 W	1834	Earle.
			N 8 28 E	S 8 28 W	2160	Streett.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

SAND LUMP.

(*Nanticoke River—Chart No. 11.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 18 45.20	75 53 49.80	N 34 40 E	S 34 40 W	2342	Juliet.
			N 63 18 W	S 63 19 E	2780	Ar.
			S 10 25 W	N 10 25 E	536	Pole.
2	38 18 52.18	75 53 47.54	N 36 57 E	S 36 58 W	2116	Juliet.
			N 68 16 W	S 68 17 E	2739	Ar.
			S 11 36 E	N 11 36 W	779	Pole.
3	38 18 48.82	75 53 42.02	N 31 57 E	S 31 58 W	2127	Juliet.
			N 67 16 W	S 67 17 E	2918	Ar.
			S 25 04 W	N 25 04 E	717	Pole.

HICKORY NUT.

(*Nanticoke River—Chart No. 11.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 18 35.22	75 53 50.58	N 30 52 E	S 30 53 W	2637	Juliet.
			N 57 14 W	S 57 14 E	2930	Ar.
			S 21 47 W	N 21 47 E	206	Pole.
2	38 18 38.40	75 54 08.15	S 52 39 E	N 52 39 W	491	Pole.
			S 40 10 E	N 40 10 W	2821	Juliet.
			N 53 29 W	S 53 29 E	2485	Ar.
3	38 18 45.20	75 53 49.80	N 34 40 E	S 34 40 W	2342	Juliet.
			N 63 18 W	S 63 19 E	2780	Ar.
			S 10 25 W	N 10 25 E	536	Pole.

OLD WOMANS PATCH.

(*Nanticoke River—Chart No. 11.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 18 21.60	75 54 11.80	N 42 53 W	S 42 54 E	2792	Ar.
			S 83 47 W	N 83 46 E	3241	Okay.
			S 15 20 W	N 15 20 E	1655	Rag.
2	38 18 29.24	75 54 16.24	N 44 54 W	S 44 55 E	2524	Ar.
			S 78 55 W	N 78 54 E	3164	Okay.
			S 9 47 W	N 9 47 E	1880	Rag.
3	38 18 31.58	75 54 06.00	N 50 14 W	S 50 15 E	2672	Ar.
			S 78 30 W	N 78 28 E	3446	Okay.
			S 17 02 W	N 17 01 E	2020	Rag.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

CEDAR SHOAL.

(*Nanticoke River—Chart No. 11.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 18 09.96	75 54 12.74	N 37 34 W	S 37 35 E	3075	Ar.
			N 89 15 W	S 89 16 E	3197	Okay.
			S 18 56 W	N 18 56 E	1272	Rag.
2	38 18 12.02	75 54 28.56	N 31 34 W	S 31 36 E	2779	Ar.
			S 89 25 W	N 89 24 E	2778	Okay.
			S 0 22 E	N 0 22 W	1272	Rag.
3	38 18 24.37	75 54 31.60	N 35 09 W	S 35 09 E	2387	Ar.
			S 80 38 W	N 80 37 E	2733	Okay.
			S 3 01 E	N 3 00 W	1691	Rag.
4	38 18 27.58	75 54 20.33	N 42 14 W	S 42 14 E	2490	Ar.
			S 79 33 W	N 79 32 E	3047	Okay.
			S 6 41 W	N 6 41 E	1809	Rag.

LONG SHOAL.

(*Nanticoke River—Chart No. 11.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 18 17.84	75 54 55.96	N 18 30 W	S 18 30 E	2290	Ar.
			S 83 45 W	N 83 44 E	2061	Okay.
			S 26 38 E	N 26 37 W	1643	Rag.
2	38 18 27.04	75 54 54.42	N 22 25 W	S 22 25 E	2013	Ar.
			S 75 37 W	N 75 37 E	2152	Okay.
			S 21 21 E	N 21 21 W	1908	Rag.
3	38 18 26.22	75 54 37.60	N 32 44 W	S 32 45 E	2246	Ar.
			S 78 42 W	N 78 41 E	2587	Okay.
			S 8 04 E	N 8 04 W	1768	Rag.

CHERRY TREE.

(*Nanticoke River—Chart No. 11.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 18 06.21	75 54 38.20	N 25 03 W	S 25 04 E	2830	Ar.
			N 86 11 W	S 86 12 E	2526	Okay.
			S 13 47 E	N 13 47 W	1108	Rag.
2	38 18 13.16	75 54 44.72	N 23 46 W	S 23 46 E	2545	Ar.
			S 88 23 W	N 88 22 E	2349	Okay.
			S 18 27 E	N 18 27 W	1381	Rag.
3	38 18 15.00	75 54 33.76	N 30 09 W	S 30 09 E	2621	Ar.
			S 87 13 W	N 87 12 E	2642	Okay.
			S 6 03 E	N 6 03 W	1387	Rag.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

WILSON SHOALS.

(Lower Nanticoke River—Chart No. 11.)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 17 04.58	75 55 15.02	S 36 46 E	N 36 44 W	2221	Nanticoke Church.
			N 51 08 E	S 51 08 W	1597	Rag.
			N 34 29 W	S 34 30 E	2724	Okay.
2	38 17 06.76	75 55 27.60	S 41 55 E	N 41 55 W	2490	Nanticoke Church.
			N 59 31 E	S 59 32 W	1830	Rag.
			N 29 05 W	S 29 05 E	2486	Okay.
3	38 17 55.16	75 55 18.02	N 69 44 W	S 69 44 E	1559	Okay.
			S 2 42 E	N 2 42 W	4131	Roar.
			S 61 59 E	N 61 58 W	1498	Rag.
4	38 18 03.50	75 54 52.84	N 16 57 W	S 16 58 E	2776	Ar.
			N 83 04 W	S 83 05 E	2148	Okay.
			S 33 33 E	N 33 33 W	1182	Rag.
5	38 17 44.10	75 54 50.18	S 60 25 E	N 60 24 W	670	Rag.
			N 44 31 E	S 44 32 W	2150	Pole.
			N 67 28 W	S 67 29 E	2384	Okay.

ROARING POINT EAST.

(Lower Nanticoke River—Chart No. 12.)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 15 37.80	75 55 33.62	S 34 23 E	N 34 22 W	4041	Nanti.
			N 50 18 E	S 50 19 W	791	Roar.
			N 65 17 W	S 65 18 E	1942	Cow.
2	38 15 46.36	75 55 49.20	N 78 01 E	S 78 02 W	1047	Roar.
			N 30 35 E	S 30 34 W	4228	Rag.
			N 68 50 W	S 68 50 E	1448	Cow.
3	38 16 07.78	75 55 43.22	S 82 29 W	N 82 28 E	1522	Cow
			S 59 42 E	N 59 42 W	1002	Roar.
			N 86 14 E	S 86 15 W	2083	Nanticoke Church.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

MIDDLEGROUND.

(Mouth Nanticoke River—Chart No. 12.)

Corner of bar	Latitude	Longitude	True bearing: Forward	True bearing: Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 12 26.22	75 55 40.38	N 79 30 E	S 79 32 W	4697	Great Shoals Light.
			N 29 24 W	S 29 25 E	4058	Frog.
			S 83 42 W	N 83 39 E	5699	Sharkfin Shoal Light.
2	38 12 32.01	75 55 51.86	N 82 21 E	S 82 23 W	4968	Great Shoals Light.
			N 26 49 W	S 26 48 E	3741	Frog.
			S 81 17 W	N 81 15 E	5422	Sharkfin Shoal Light.
3	38 12 47.41	75 55 44.62	N 88 17 E	S 88 19 W	4734	Great Shoals Light.
			N 33 40 W	S 33 41 E	3389	Frog.
			S 76 26 W	N 76 23 E	5711	Sharkfin Shoal Light.
4	38 13 13.01	75 55 54.46	S 81 47 E	N 81 45 W	5045	Great Shoals Light.
			N 39 34 W	S 39 35 E	2539	Frog.
			S 67 23 W	N 67 21 E	5729	Sharkfin Shoal Light.
5	38 14 43.39	75 55 32.02	N 13 38 E	S 13 38 W	2408	Roar
			N 34 19 W	S 34 20 E	3204	Cow.
			S 63 48 W	N 63 47 E	2468	Frog.
6	38 15 03.62	75 55 00.00	N 9 44 W	S 9 44 E	1683	Roar.
			N 53 32 W	S 53 33 E	3305	Cow.
			S 59 59 W	N 59 58 E	3541	Frog.
7	38 13 12.39	75 55 00.00	S 78 48 E	N 78 47 W	3613	Great Shoals Light.
			N 57 10 W	S 57 11 E	3649	Frog.
			S 72 04 W	N 72 02 E	7082	Sharkfin Shoal Light
8	38 13 10.60	75 54 40.80	S 78 04 E	N 78 03 W	3100	Great Shoals Light.
			N 60 19 W	S 60 21 E	4116	Frog.
			S 73 42 W	N 73 39 E	7553	Sharkfin Shoal Light.

BIG HILL.

(Mouth Nanticoke River—Chart No. 12.)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 12 23.70	75 56 45.82	N 81 34 E	S 81 37 W	6429	Great Shoals Light.
			N 3 58 W	S 3 58 E	3629	Frog.
			S 82 08 W	N 82 07 E	3960	Sharkfin Shoal Light.
2	38 12 29.41	75 56 47.82	N 83 20 E	S 83 22 W	6457	Great Shoals Light.
			N 3 19 W	S 3 19 E	3433	Frog.
			S 79 15 W	N 79 14 E	3938	Sharkfin Shoal Light.
3	38 12 32.10	75 56 32.89	N 83 45 E	S 83 48 W	6052	Great Shoals Light.
			N 10 07 W	S 10 07 E	3397	Frog.
			S 79 04 W	N 79 01 E	4346	Sharkfin Shoal Light.
4	38 12 25.42	75 56 36.84	N 81 47 E	S 81 49 W	6184	Great Shoals Light.
			N 7 50 W	S 7 50 E	3596	Frog.
			S 81 48 W	N 81 46 E	4205	Sharkfin Shoal Light.

BOUNDARIES OF NATURAL OYSTER BARS—continued.

GREAT SHOALS.

(Mouth Wicomico River—Chart No. 12.)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 12 47.01	75 52 37.71	N 54 28 W	S 54 28 E	285	Great Shoals Light.
			S 39 20 W	N 39 19 E	1505	Short.
			S 57 44 E	N 57 43 W	1979	Dove.
2	38 13 00.41	75 54 00.00	S 37 25 E	N 37 25 W	2034	Short.
			S 81 19 E	N 81 18 W	1971	Great Shoals Light.
			N 11 40 E	S 11 40 W	1433	White.
3	38 13 13.97	75 54 00.00	S 30 49 E	N 30 48 W	2414	Short.
			S 68 49 E	N 68 48 W	2090	Great Shoals Light.
			N 17 01 E	S 17 01 W	990	White.
4	38 13 20.76	75 52 19.72	N 36 44 E	S 36 44 W	1545	Wind.
			S 28 34 E	N 28 35 W	2500	Dove.
			S 36 10 W	N 36 10 E	1219	Great Shoals Light.
5	38 12 49.82	75 52 24.28	S 48 49 E	N 48 49 W	1749	Dove.
			S 46 10 W	N 46 10 E	1818	Short.
			N 84 22 W	S 84 22 E	601	Great Shoals Light.

INGRAM SHOAL.

(Lower Wicomico River—Chart No. 12.)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 13 38.61	75 52 23.64	S 21 12 W	N 21 12 E	1702	Great Shoals Light.
			N 58 14 E	S 58 14 W	1210	Wind.
			N 0 31 W	S 0 31 E	1877	Ella.
2	38 13 51.98	75 52 31.90	S 10 59 W	N 10 59 E	2075	Great Shoals Light.
			N 81 31 E	S 81 32 W	1262	Wind.
			N 8 06 E	S 8 06 W	1439	Ella.
3	38 13 57.26	75 52 18.97	S 18 28 W	N 18 28 E	2335	Great Shoals Light.
			N 89 29 E	S 89 30 W	904	Wind.
			N 6 28 W	S 6 28 E	1255	Ella

BOUNDARIES OF NATURAL OYSTER BARS—continued.

HOLLAND.

(*Lower Wicomico River—Chart No. 12.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 14 36.02	75 51 06.20	N 8 40 W	S 8 40 E	469	Holland.
			S 38 27 W	N 38 26 E	1659	Wind.
			S 32 56 E	N 32 56 W	414	Ball.
2	38 14 38.98	75 51 09.36	N 1 40 E	S 1 40 W	364	Holland.
			S 34 06 W	N 34 06 E	1690	Wind.
			S 34 36 E	N 34 35 W	545	Ball.
3	38 14 42.04	75 51 03.04	N 30 42 W	S 30 42 E	303	Holland.
			S 36 36 W	N 36 36 E	1871	Wind.
			S 14 23 E	N 14 23 W	569	Ball.
4	38 14 39.00	75 51 00.40	N 31 47 W	S 31 47 E	428	Holland.
			S 40 16 W	N 40 16 E	1834	Wind.
			S 9 00 E	N 9 00 W	454	Ball.

APPENDIXES.

APPENDIX A.—LAWS RELATING TO THE COOPERATION OF THE COAST AND GEODETIC SURVEY AND BUREAU OF FISHERIES WITH THE MARYLAND SHELL FISH COMMISSION.

The work of the Coast and Geodetic Survey and of the Bureau of Fisheries, in cooperation with the Maryland Shell Fish Commission, in surveying the oyster bars, establishing permanent landmarks at triangulation stations, and preparing for publication the necessary charts and technical and legal descriptions of boundaries and landmarks shown on these charts, has been executed in compliance with a request from the governor of the State of Maryland to the Secretary of Commerce and Labor, and by the authority of the following laws of the United States and Maryland:

[Act of Congress approved May 26, 1906.]

AN ACT To authorize the Secretary of Commerce and Labor to cooperate, through the Bureau of the Coast and Geodetic Survey and the Bureau of Fisheries, with the shellfish commissioners of the State of Maryland in making surveys of the natural oyster beds, bars, and rocks in the waters within the State of Maryland.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of Commerce and Labor be, and he is hereby, authorized and directed, upon the request of the governor of the State of Maryland, to designate such officers, experts, and employees of the Bureau of the Coast and Geodetic Survey and of the Bureau of Fisheries as may be necessary to cooperate with the Maryland State board of shellfish commissioners in making a survey of and locating the natural oyster beds, bars, and rocks in the waters within the State of Maryland; and the Secretary of Commerce and Labor is hereby authorized and directed to furnish to the officers, experts, and employees of said Bureaus so detailed as aforesaid such instruments, appliances, and steam launches as may be necessary to make the survey aforesaid; and the Secretary of Commerce and Labor is hereby authorized to have made in the Bureau of the Coast and Geodetic Survey all the plats necessary to show the results of the aforesaid survey and the locations of the said natural oyster beds, bars, and rocks in the waters within the State of Maryland, and to furnish to the board of shellfish commissioners of the State of Maryland such copies as may be necessary, and for this purpose to employ, in the District of Columbia and elsewhere, such technically qualified persons as may be necessary to carry out the purpose of this act.

SEC. 2. That the Secretary of Commerce and Labor is hereby further authorized to have erected or constructed by the officers so detailed as aforesaid, while making such survey, such structures as may be necessary to mark the points of triangulation, so that the same may be used for such future work of the Coast and Geodetic Survey as the said Bureau may be hereafter required to perform in prosecuting the Government coast survey of the navigable waters of the United States located within the State of Maryland.

* * * * * * *

SEC. 4. That this act shall take effect from the date of its passage.

[Act of Congress approved June 30, 1906.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and seven, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and seven, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including the expenditures authorized under Public Act Numbered One hundred and eighty-one, approved May twenty-sixth, nineteen hundred and six, and contingent expenses incident thereto, five thousand dollars, together with the unexpended balance under this appropriation for nineteen hundred and six and prior years which is hereby reappropriated and made available on this account for the fiscal year nineteen hundred and seven. * * *

[Act of Congress approved March 4, 1907.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and eight, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and eight, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, to be immediately available and to continue available until expended, twenty-five thousand dollars. * * *

[Act of Congress approved May 27, 1908.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and nine, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and nine, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, which expenses, including cost of plats and charts, shall not exceed fifteen thousand dollars in any one year, to be immediately available, twenty thousand dollars.

[Act of the legislature of Maryland approved April 2, 1906.]

AN ACT to establish and promote the industry of oyster culture in Maryland, to define and mark natural oyster beds, bars and rocks lying under the waters of this State, to prescribe penalties for the infringement of the provisions of this Act, and * * *

SECTION 1. *Be it enacted by the General Assembly of Maryland,* That the following sections be, and they are hereby, added to Article 72 of the Code of Public General Laws, title "Oysters." * * *

SEC. 86. The Board of Shell Fish Commissioners shall, as soon as practicable after the passage of this Act, cause to be made a true and accurate survey of the natural oyster beds, bars and rocks of this State, said survey to be made with reference to fixed and permanent objects on the shore, giving courses and distances, to be fully described and set out in a written report of said survey, as hereinafter required. A true and accurate delineation of the same shall be made on copies of published maps and charts of the United States coast and geodetic survey, which said copies shall be filed in the office of the said commissioners in the city of Annapolis; and the said commissioners shall further cause to be

delineated upon copies of the published maps and charts of the United States coast and geodetic survey, of the largest scale, one copy for each of the counties of this State in the waters of which there are natural oyster beds, bars and rocks, all natural beds, bars and rocks lying within the waters of such county, which maps shall be filed in the offices of the clerks of the Circuit Court for the respective counties wherein the grounds so designated may lie.

* * * * * * *

SEC. 87. The Governor of this State is hereby requested to ask the assistance of the United States coast and geodetic survey, and of the United States Fish Commissioner, to aid in the carrying out of the provisions of the preceding section. * * *

SEC. 89. As soon as practicable after the first day of April, 1906, the said commissioners shall organize, and shall at once proceed, with the assistance of such person or persons as may be detailed by the United States coast and geodetic survey, and the United States Fish Commissioner, to aid them in their work, and of such persons as may be appointed under the preceding section, to have laid out, surveyed and designated on the said charts, the natural beds and bars, and shall cause to be marked and defined as accurately as practicable, the limits and boundaries of the natural beds, bars and rocks, as established by said survey, and they shall take true and accurate notes of said survey in writing, and make an accurate report of said survey, setting forth such a description of landmarks as may be necessary to enable the said board, or their successors, to find and ascertain the boundary lines of the said natural oyster beds, bars and rocks, as shown by a delineation on the maps and charts provided in this Act; said report shall be completed and filed in the office of the board in the city of Annapolis within ninety days after the completion of the survey of any county. Said commissioners shall cause the same to be published in pamphlet form, and transmit copies of the same to the clerks of the Circuit Court for the respective counties, where the charts have been filed or directed to be filed as hereinafter provided; the said report to be filed by the clerks of the several counties in a book kept for that purpose. And the said survey and report, when filed, subject to the right of appeal hereafter provided for in this Act, shall be taken in all of the courts of this State as conclusive evidence of the boundaries and limits of all natural oyster beds, bars and rocks, lying within the waters of the county wherein such survey and report are filed, and shall be construed to mean in all of the said courts that there are no natural oyster beds, bars or rocks lying within the waters of the counties wherein such report and survey are filed, other than those embraced in the survey authorized by this Act, and that all areas of the Chesapeake Bay and its tributaries within the State of Maryland, not shown in the survey to be natural oyster beds, bars or rocks, shall be construed in all the courts of the State to be barren bottoms, and open for disposal by the State for the purpose of private planting or propagation of oysters thereon under the provisions of this Act; provided, that the said survey and report shall not be so construed as to affect in any manner the holdings by citizens of this State in any lot which may have been appropriated or taken up under the laws of this State prior to the approval of this Act. * * *

The law of the State of Maryland, passed March 9, 1842, authorizing officers of the United States Coast and Geodetic Survey to enter upon the lands within the State limits for the purposes of the Survey, is as follows:

An Act Concerning the Survey of the Coast of Maryland.

SECTION 1. *Be it enacted by the General Assembly of Maryland*, That it shall and may be lawful for any person or persons employed under and by virtue of an act of the Congress of the United States, * * * at any time hereafter to enter upon lands within this State for the purpose of exploring, surveying, triangulating, or levelling, or doing any other matter or thing which may be necessary to effect the objects of said act, and to erect any works, stations, buildings, or appendages requisite for that purpose, doing no unnecessary injury to private or other property.

SEC. 2.[a] *And be it enacted*, That in case the person or persons employed under the act of Congress aforesaid, can not agree with the owners or possessors of the land so entered upon and used as to the amount of damage done thereto by reason of the removal of fences, cutting of trees or injury to the

[a] Under the rulings of the Comptroller of the Treasury no damages can be collected except through the United States Court of Claims unless an agreement has been made in advance.

crop or crops growing on the same, it shall and may be lawful for the said parties or either of them to apply to the chief justice for the time being or one of the associate judges of the judicial district in which such land may be situated, who shall thereupon appoint three disinterested and judicious freeholders, residents of the same judicial district, to proceed with as much despatch as possible to the examination of the matter in question, and the faithful assessment of the damages sustained by the owners or possessors aforesaid, and the said freeholders or a majority of them, having first taken and subscribed an oath or affirmation before the chief or associate justice aforesaid or other person duly authorized to administer the same, that they will well and truly examine and assess as aforesaid, and having given five days' notice to both parties of the time of their meeting, shall proceed to the spot, and then and there upon their own view and if required, upon the evidence of witnesses, (to be by them sworn or affirmed and examined) shall assess the said damages, and shall afterward make report thereof and of their proceedings in writing under their hands and seals and file the same within five days thereafter in the office of the clerk of the county in which the land aforesaid is situated, subject to an appeal by either party to the county court of the said county within ten days after filing as aforesaid, and the said report so made as aforesaid, if no appeal as aforesaid be taken, shall be held to be final and conclusive as between the said parties, and the amount so assessed and reported shall be paid to the said owners or possessors of the land so damaged within twenty days after the filing of said report, and the said chief or associate justice as aforesaid, shall have authority to tax and allow upon the filing of said report, such costs, fees and expenses to the said freeholders for the performance of their duty as he shall think equitable and just, which allowance shall be paid by the person or persons employed under the act of congress aforesaid, within the time last above limited, but if an appeal as aforesaid be taken, the case shall be set down for hearing at the first term of county court aforesaid, ensuing upon and after appeal, and it shall be lawful for either party immediately after the entry of such appeal, to take out summons for such witnesses as may be necessary to be examined upon the hearing aforesaid, and the said court shall have power in its discretion to award costs against which ever the final judgment shall be entered, and such appeal at the option of either party may and shall be heard before and the damage assessed by a jury of twelve men to be taken from the regular panel and elected as in other cases.

SEC. 3. *And be it enacted*, That if any person or persons shall wilfully injure or deface or remove any signal, monument or building or any appendage thereto, erected, used or constructed under and by virtue of the act of congress aforesaid, such person or persons so offending shall severally forfeit and pay the sum of fifty dollars with costs of suit to be sued for and recovered by any person who shall first prosecute the same before any justice of the peace of the county where the person so offending may reside, and shall also be liable to pay the amount of damages thereby sustained, to be recovered with costs of suit in an action on the case, in the name and for the use of the United States of America, in any court of competent jurisdiction.

APPENDIX B.—THE HAMAN OYSTER CULTURE LAW.

[Extract from First Report of Shell Fish Commission.]

OBJECT.

"The legislature in placing chapter 711 of the acts of 1906, better known as the Haman Oyster Culture Law, upon the statute books of Maryland had a twofold object in view:

1. To *encourage* an industry in oyster culture upon the *barren bottoms* beneath the tidewaters of the State.

2. To *prevent* the leasing of *natural oyster bars* for the purpose of oyster culture."

SURVEY.

"To make the leasing of barren bottoms possible and the leasing of natural bars impossible, provision was made for a survey of the natural bars for the purpose of accurately locating and marking the same. It was definitely provided that no barren bottoms should be leased in any part of the State until the natural bars of that region had been surveyed, charted, and marked with buoys."

NATURAL BAR NOT DEFINED.

"The Shell Fish Commission is instructed by section 90 of the Haman Oyster Culture Law to exercise its judgment liberally in favor of the natural bars when surveying, charting and buoying them, but other than this the Commission is uninstructed in this important matter. The responsibility of defining a natural bar is placed upon the Commission."

DEFINITION OF A NATURAL OYSTER BAR.

DIVERSITY OF OPINION.

"No definition of a natural oyster bar could be formulated by any man or body of men which would meet with the approval of all parties concerned. Oystermen, as a rule, hold that all bottoms where oysters grow or have grown naturally even though now practically barren of oysters should be considered natural bars. Other citizens of the State who are not directly interested in the oyster business, but interested in the oyster industry from the standpoint of revenue, hold, as a rule, that no bottoms should be excluded from leasing for oyster culture which, by methods known to oyster culturists, may be made to yield a greater number of oysters than they now produce."

"It should be evident to every one that neither of these definitions could be adopted by the Commission as a working basis for determining which of the grounds surveyed are natural oyster bars."

THE GOLDSBOROUGH DEFINITION.

"The definition of a natural bar which very nearly approaches a reasonable and satisfactory compromise between the extreme views given above and which has therefore been adopted by the Commission, is that contained in an opinion rendered by Judge Charles F. Goldsborough in the circuit court for Dorchester County in the July term, 1881, in the case of William T. Windsor and George R. Tood, *v.* Job T. Moore. It is as follows:

What then is a natural bar or bed of oysters? It would be a palpable absurdity for the State to attempt to promote the propagation and growth of oysters and to encourage its citizens, by a grant of land, to engage in their culture, if the lands authorized to be taken up were only those upon which oysters do not and can not be made to grow. That there may be lands covered by water in the State where no oysters can be found, but where, if planted, they could be cultivated successfully, may be possible, but, if so, I imagine that their extent must be too limited for them to be of much practical, general advantage for the purposes of such a law as the one under discussion; but there are thousands of acres of hard and shifting sands where oysters not only are not found, but where it would be folly to plant them; and these latter it can not be supposed that the State intended to offer to give away, for the simple reason that the State could not help knowing that nobody would have them.

Upon the other hand there are large and numerous tracts where oysters of natural growth may be found in moderate numbers, but not in quantities sufficient to make it profitable to catch them, and yet where oysters may be successfully planted and propagated. In my opinion these can not be called natural bars or beds of oysters, within the meaning of the Act of Assembly, and it is just such lands as these that the State meant to allow to be taken up under the provisions of the above-mentioned section of the Act.

But there is still another class of lands where oysters grow naturally and in large quantities and to which the public are now and have been for many years in the habit of resorting with a view to earning a livelihood by catching this natural growth, and here, I think, is the true test of the whole question. Land can not be said to be a natural oyster bar or bed merely because oysters are scattered here and there upon it, and because if planted they will readily live and thrive there; but whenever the natural growth is so thick and abundant that the public resort to it for a livelihood, it is a natural oyster bar or bed and comes within the above-quoted restriction in the law, and cannot be located or appropriated by any individual."

APPENDIX C.—STATISTICS OF RESULTS OF THE COMBINED OPERATIONS OF THE GOVERNMENT AND STATE.

For a further understanding of the character of the oyster survey work that is being carried on in Maryland, the following statistical tabulation of the combined results of the various operations of both the Government and State will be of value. In this connection it should be remembered that

these statistics only include the new work required to supplement the large amount of existing data obtained from the archives of the Coast and Geodetic Survey and utilized in the preparation of the charts and technical records.

Operations	County			Total.
	Anne Arundel	Somerset	Wicomico	
Natural oyster bars surveyed and delineated	91	37	15	143
Acres of natural oyster bars	33,666	27,566	1,638	[a] 62,870
Crab bottoms surveyed and delineated	----------	54	----------	54
Acres of crab bottoms	----------	32,108	----------	32,108
Clam beds surveyed and delineated	----------	3	----------	3
Acres of clam beds	----------	506	----------	506
Boundary buoys located and planted	362	154	53	569
Triangulation landmarks established	123	86	30	[b] 209
Miles of shore line covered by triangulation	110	125	46	[b] 265
Square miles of water covered by triangulation	220	375	44	[b] 620
Miles of examination of shell bottom with chain apparatus	369	296	58	723
Oyster investigation stations occupied	440	679	162	1,281
Number of soundings over shell bottoms	37,049	17,904	3,387	58,340
Square miles covered by soundings and chain apparatus	58	47	3	108
Projections prepared and plotted	9	13	2	[b] 23
Leasing charts prepared	13	12	2	27
Oyster charts published	4	6	2	12
Reports published	2	2	2	6
Progress maps published	2	2	1	5

[a] Total area of natural oyster bars of Connecticut is 5,770 acres.
[b] Less quantities covered by statistics of more than one county.

O

COAST AND GEODETIC SURVEY

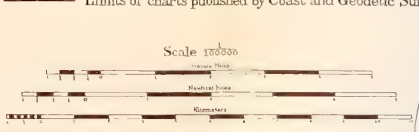
PROGRESS MAP

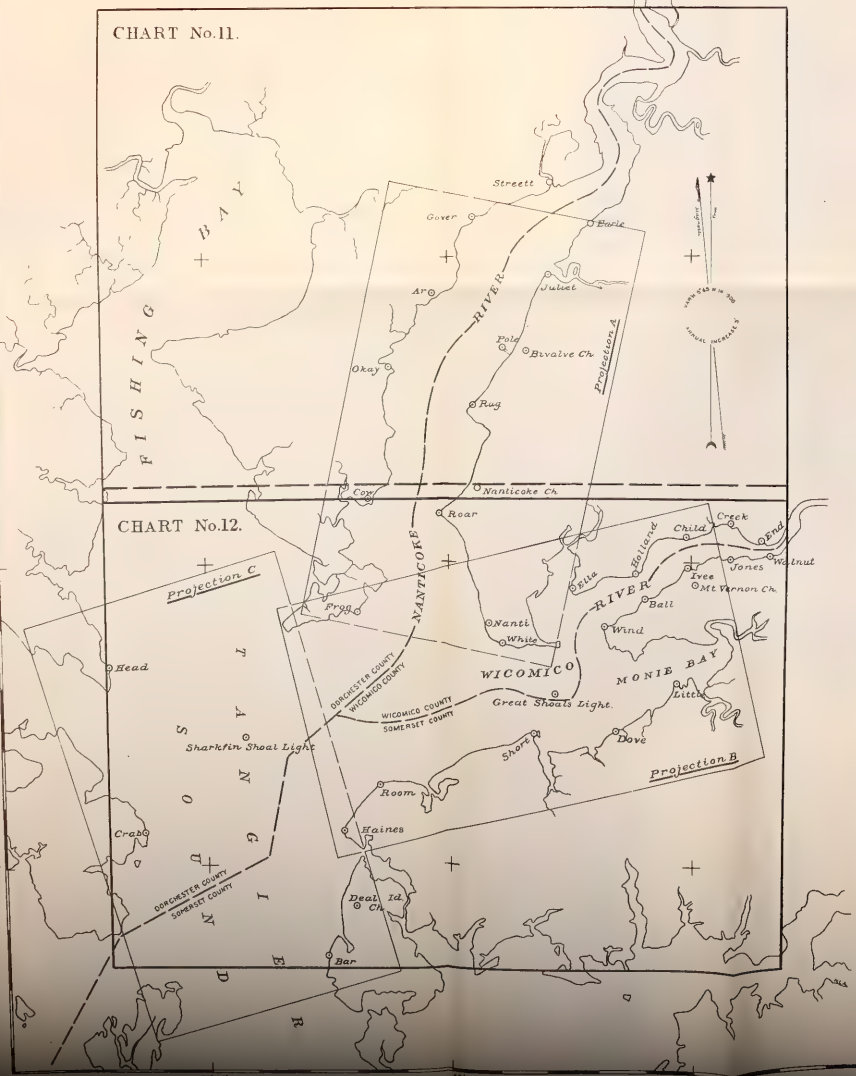
WICOMICO COUNTY
MARYLAND

To accompany report of work of United States
Coast and Geodetic Survey in cooperation
with the Maryland Shell Fish Commission

1907

- Landmarks (Coast Survey Triangulation Stations)
- Waters contiguous to county
- Waters within territorial limits of county
- Limits of projections on file at Washington
- Limits of charts published by Coast and Geodetic Survey





DEPARTMENT OF COMMERCE AND LABOR
COAST AND GEODETIC SURVEY
O. H. TITTMANN, Superintendent

SURVEY OF OYSTER BARS

WORCESTER COUNTY MARYLAND

DESCRIPTION OF BOUNDARIES AND LANDMARKS AND REPORT OF WORK OF UNITED STATES COAST AND GEODETIC SURVEY IN COOPERATION WITH UNITED STATES BUREAU OF FISHERIES AND MARYLAND SHELL FISH COMMISSION

By C. C. YATES
CHIEF OF COAST AND GEODETIC SURVEY PARTY
ASSISTANT, COAST AND GEODETIC SURVEY

WASHINGTON
GOVERNMENT PRINTING OFFICE
1909

LETTER OF SUBMITTAL.

DEPARTMENT OF COMMERCE AND LABOR,
COAST AND GEODETIC SURVEY,
Washington, April 10, 1909.

SIR: I have the honor to transmit herewith a report of the officer detailed from the Coast and Geodetic Survey to cooperate with the Bureau of Fisheries and the Maryland Shell Fish Commission in surveying the oyster bars of the State of Maryland, and certain technical results which are necessary for the interpretation and use of the plats of the survey made by the Government.

This work has been done under the provisions of the act of Congress entitled "An act to authorize the Secretary of Commerce and Labor to cooperate, through the Bureau of the Coast and Geodetic Survey and the Bureau of Fisheries, with the shell fish commissioners of the State of Maryland in making surveys of the natural oyster beds, bars, and rocks in the waters within the State of Maryland," approved May 26, 1906, and of the acts of Congress making appropriations for sundry civil expenses of the Government for the fiscal years ending June 30, 1907, 1908, and 1909.

Respectfully,

O. H. TITTMANN, *Superintendent.*

To Hon. CHARLES NAGEL,
Secretary of Commerce and Labor.

CERTIFICATION.

ANNAPOLIS, MD., *April 8, 1909.*

The following publication is certified to contain correct technical descriptions of all boundaries and landmarks established in the waters of Worcester County by the Maryland Shell Fish Commission in cooperation with the United States Coast and Geodetic Survey.

C. C. YATES,
Chief of Coast and Geodetic Survey Party,
Assistant, Coast and Geodetic Survey.

ANNAPOLIS, MD., *April 8, 1909.*

Examined and certified to be correct.

WALTER J. MITCHELL,
CASWELL GRAVE,
BENJAMIN K. GREEN,
Maryland Shell Fish Commission.
SWEPSON EARLE,
Hydrographic Engineer.

NOTE.—Certified copies of this publication and of the charts of the natural oyster bars of Worcester County were filed in the office of the clerk of the circuit court of Worcester County and in the office of the Board of Shell Fish Commissioners, at Annapolis, on April 12, 1909.

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SURVEY OF OYSTER BARS, WORCESTER COUNTY, MD.

INTRODUCTION.

PUBLICATIONS.

The preparation of publications relating to the survey of the oyster bars of Maryland has been divided between the Government and the State in accordance with the laws [a] authorizing the work and the natural division of the surveying operations [b] of the cooperating forces.

The publications prepared and issued by the Government under the direction of the Superintendent of the Coast and Geodetic Survey consist of a series of charts and a technical report for each county surveyed.[c] The charts show all legal boundaries of oyster bars within the adopted boundaries of the waters opened up for leasing with each county, and the location of all landmarks (Coast and Geodetic Survey triangulation stations) used as a foundation for the delineation of these various boundaries. The technical report gives technical and legal descriptions of all oyster-bar and other boundaries, and descriptions of all landmarks shown on the charts, and includes the report of the representative of the Coast and Geodetic Survey in charge of the work of that Service in cooperation with the Bureau of Fisheries and the Maryland Shell Fish Commission. These charts and technical reports are prepared and certified for file with the courts and the Commission, as required by the laws of the State, and contain all information necessary to make a permanent record of the work of the Commission and the Government for all future requirements of the courts, or for any resurveys that may become necessary.[d]

The publications prepared and issued by the State under the direction of the Shell Fish Commission consist of annual reports[e] of all the operations of the Commission

[a] See Appendix A for laws relating to the cooperation of the Coast and Geodetic Survey and Bureau of Fisheries with the Maryland Shell Fish Commission.

[b] See Appendix C for a summary of the particular surveying operations which constitute an "oyster survey" as now being carried on in Maryland.

[c] These charts and technical reports can be obtained by application to the Superintendent of the Coast and Geodetic Survey, at Washington, D. C. The publications ready for issue are those for Anne Arundel, Somerset, Wicomico, and Worcester counties; those for Calvert, St. Marys, and Charles counties are now being prepared.

[d] The technical records and charts for each county are published separately on account of the requirements of the oyster-culture laws of the State and the practical considerations which make it desirable to have each county "opened up" for oyster culture as soon as practicable after the completion of its survey. For these reasons and the fact that these reports are each arranged for distribution and use in one county only without reference to other published records, much of the text of this publication is of necessity identical with similar previous publications for other counties.

[e] These reports can be obtained by application to the Shell Fish Commission, Annapolis, Md. They are issued annually in October, and the first and second reports are now available for distribution.

performed under the provisions of the laws of Maryland,[a] including results of biological and economic oyster investigations, methods and results of the hydrographic survey of the boundaries of oyster bars and crab bottoms, the administrative report and financial statement of the Commission, information relating to oyster culture, methods of surveying and leasing of oyster lots, and much other important matter of legal and scientific value.

These two sets of publications are planned and arranged to supplement each other without unnecessary duplication, and when combined they form a complete report of operations, methods, and results of the work of both the Government and State.[b]

COOPERATION OF THE COAST AND GEODETIC SURVEY.

The work of the Coast and Geodetic Survey, as the name of the Service indicates, includes a survey of the coasts of the United States made on a geodetic basis. This has involved the gradual construction of a great framework of interstate triangulation for use as a foundation for detail hydrographic and topographic surveys, from which there has been compiled and published a complete set of charts of the coasts of the United States, including all waters of Maryland where oysters grow. This existing triangulation, hydrography, and topography is essential as a foundation for a correct and practical survey of natural oyster bars; and it being one of the fundamental functions of the Coast and Geodetic Survey to furnish such data, the cooperation of the Coast and Geodetic Survey with the Bureau of Fisheries and the Maryland Shell Fish Commission is a practical and natural development of Government work leading to the conservation and increase of the supply of food.

COOPERATION OF THE BUREAU OF FISHERIES.

The Bureau of Fisheries has cooperated with the Coast and Geodetic Survey and the Maryland Shell Fish Commission principally as an adviser in matters relating to the biological and economic survey of oyster bars and the methods to be employed for that purpose.[c] A steam launch, rowing boat, and certain apparatus have also been furnished.

The primary function of the Bureau of Fisheries is to increase the productiveness of marine and fresh waters by such measures as may be best suited to the purpose, and the services rendered in connection with the survey of the oyster bars of Maryland are strictly in line with the fundamental law under which it acts. In certain States other than Maryland similar work has been conducted by the Bureau acting independently, the same ends being attained at greater expense to the Government.

GENERAL STATEMENT OF WORK OF COAST AND GEODETIC SURVEY.[d]

The results obtained from the work of the Coast and Geodetic Survey in cooperation with the Bureau of Fisheries and the Maryland Shell Fish Commission need very

[a] See Appendix B for an extract from the "Second Report of the Maryland Shell Fish Commission," giving a concise summary of the "Haman Oyster Culture Law."

[b] See Appendix D of this publication for "Statistics of results of combined operations of the Government and State."

[c] Hon. George M. Bowers, Commissioner of Fisheries, has detailed for this service Dr. H. F. Moore, Assistant, Bureau of Fisheries.

[d] For a detail statement of the very large amount of excellent oyster survey work of the Maryland Shell Fish Commission see the "Annual Reports of the Maryland Shell Fish Commission."

little other summary than is indicated by the published "Charts of Natural Oyster Bars" and the scheme of hydrographic projections and triangulation stations shown on the county progress maps attached to each report.

The triangulation has been carried on in accordance with the standard methods of the Coast and Geodetic Survey, making this work and that of the "Descriptions of Triangulation Stations" of permanent value, not only to the State of Maryland in the survey of her oyster bars, but also to the Government for any future work it may do in the regions covered by the oyster-survey operations.

The hydrographic projections and published charts are prepared with all the accuracy permitted by their large scale, especially as to the boundaries of the various shellfish bottoms in relation to landmarks, but this accuracy of location on the charts is further added to and permanently fixed by published technical descriptions which should minimize the probability of any future dispute as to either landmarks or boundaries.

Stated another way and quoting from the report of the "Survey of Oyster Bars of Anne Arundel County:"

> The geographic positions of the permanent landmarks and signals have been determined with the usual precision of a trigonometric survey, and their locations at all points necessary to provide ample foundation for the surveying and charting operations permitted great accuracy of definition and location for the natural oyster bar and other boundaries established. At the same time, the very important element of permanency of the positions of boundaries has been secured, as the relocation of geodetic positions can always be accomplished by a competent surveyor, even though the original landmarks and monuments have been washed away, as has been the fate of hundreds of such points established by the Coast and Geodetic Survey on the shores of the Chesapeake Bay during the last sixty-five years.

In fact, when the survey of the oyster bars of Maryland is completed, it is believed that it will stand the test of time and practical use as a working foundation for whatever form the oyster legislation of the future may assume, and that the doing of the work systematically and accurately, once for all, means the establishment of a foundation of a great oyster industry by ineradicably locating the natural oyster bars for the use of the public, and a still greater permanent superstructure of real oyster culture as a reward for individual enterprise, by reason of the integrity of the survey by which the rights of the public are secured.

REPORT OF THE WORK OF THE COAST AND GEODETIC SURVEY IN WORCESTER COUNTY.

INSTRUCTIONS.

The following two letters, together with the laws[a] of the United States relating to the subject, constitute the "instructions" received by the chief of the Coast and Geodetic Survey party engaged on work in connection with the Maryland Shell Fish Commission. They are short and definite, but furnish ample authority and leeway for all legitimate development of the cooperation of the Government and the State in the survey of oyster bars. The "free hand" permitted by these orders, together with the aid and many valuable suggestions received from the officers of the Survey at Washington, have proved very beneficial to the work, and are greatly appreciated.

DEPARTMENT OF COMMERCE AND LABOR,
OFFICE OF THE SECRETARY,
Washington, June 2, 1906.

SIR: In reply to your letter of May 28, requesting me to designate officers of the Coast and Geodetic Survey and of the Bureau of Fisheries to cooperate with the State of Maryland in making survey of and locating the natural oyster beds, I have the honor to inform you that Mr. C. C. Yates will be designated to cooperate on the part of the Coast and Geodetic Survey as soon as Congress makes the provisions of the act effective by providing an appropriation for the purpose.

Respectfully,

LAWRENCE O. MURRAY, *Assistant Secretary.*

His Excellency Hon. EDWIN WARFIELD,
Governor of Maryland, Annapolis, Md.

DEPARTMENT OF COMMERCE AND LABOR,
COAST AND GEODETIC SURVEY,
Washington, July 3, 1906.

SIR: Upon the receipt of these instructions you will surrender the command, accounts, etc., of the steamer *Endeavor* to the Hydrographic Inspector. * * *

As soon as this transfer is completed you will enter upon the duties of Coast Survey representative on the Shell Fish Commission of Maryland.

You will consult the commissioners, prepare a programme of work, and submit estimates in the usual form.

You are authorized to come to Washington for consultation from time to time as may be necessary.

* * * * * * *

Very respectfully,

O. H. TITTMANN, *Superintendent.*

Capt. C. C. YATES,
U. S. C. and G. S. Steamer Endeavor, Baltimore, Md.

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[a] For these laws see Appendix A.

ORGANIZATION AND EQUIPMENT.

The personnel and occupation of the party of the Coast and Geodetic Survey have remained practically unchanged since the beginning of the "oyster survey." Besides the chief of party, it consists of the necessary triangulators, computers, draftsmen, and temporary employees required to carry on both the surveying operations in the field and the preparation for publication of oyster charts and technical records in the Office at Washington.

The transportation equipment for the field work of the party in Worcester County was confined to hired launches and boats, as the waters of that region are too shallow for the use of the type of boats utilized by the Survey and the Commission in Chesapeake Bay.

It being impracticable to move the Shell Fish Commission house boat *Oyster* to the ocean coast of Maryland, the convenient living and office quarters furnished the Government on that vessel had to be exchanged for temporary quarters on shore.

The greater part of the equipment of instruments for the operations of both the Government and State has been furnished by the Coast and Geodetic Survey, and consists of all necessary theodolites, levels, sextants, drafting instruments, hydrometers, etc., required for all field and office work.

CHRONOLOGICAL STATEMENT OF WORK.

The field work in Worcester County dates from November 8, 1907, when the survey in Wicomico County was completed and the entire party moved to Chincoteague, Va., where headquarters were established.

On December 6, 1907, a subparty was organized for field work in the upper part of the county, the work of this party being done from a small house boat which was towed by a gasoline launch.

On December 19, 1907, all field work was closed for the season and office quarters established in Baltimore.[a]

No further field work was done in Worcester County until March 23, 1908, when a subparty was organized to complete the triangulation, which work was finished on April 18, 1908.

On March 8, 1909, a subparty was organized to do some additional field work in Somerset County, and at the same time to inspect and replace certain triangulation monuments in Worcester County which were reported to have been injured. This latter work occupied thirteen days and was completed March 30, 1909.

The office work connected with Worcester County, including the preparation of the oyster charts and technical records for publication, has been continued intermittingly from the beginning of the field work, on November 8, 1907, to the present time. The delay in the completion of the office work was due to various causes, but chiefly to the desirability of utilizing the new shore line being surveyed for other purposes by a topographic party of the Coast and Geodetic Survey. This topographic work was available for use in the preparation of publications in beginning of present year, and adds greatly to the accuracy and value of the published oyster charts of Worcester County.

[a] Office rooms were furnished for the work of the Coast and Geodetic Survey in the new customhouse by courtesy of Hon. William F. Stone, collector of customs.

STATISTICS.[a]

Landmarks and triangulation signals erected	36
Monuments planted to mark triangulation stations	34
Triangulation stations occupied for observations of horizontal angles	38
Old triangulation stations recovered	5
New triangulation stations established	43
Total old and new triangulation stations marked and described	48
Linear miles of shore line covered by triangulation (approximate)	95
Square miles covered by triangulation (approximate)	110
Hydrographic projections prepared and completed as records of oyster boundaries	5
Triangles computed	90
Geographic positions computed	45
Corners of oyster boundaries established by computation	108
Back azimuths and distances computed from corners of boundaries to triangulation stations	324
Descriptions of triangulation stations prepared for publication	48
Descriptions of oyster boundaries prepared for publication	28
"Charts of Natural Oyster Bars" prepared for publication	3
Progress map prepared for publication	1

GENERAL REMARKS.

Before ending this report the representative of the Coast and Geodetic Survey wishes to renew his statement of appreciation of the courteous assistance received from various Government and State officials and others interested in the oyster industry of Maryland, especially to the following:

To his colleague from the Department of Commerce and Labor, Dr. H. F. Moore of the Bureau of Fisheries, whose well-known scientific knowledge of all matters relating to oysters has been of great value to the work.

To Mr. Walter J. Mitchell, chairman of the Maryland Shell Fish Commission, who, by his administrative ability in carrying out the complicated requirements of the oyster laws and by his unfailing tact, has made the cooperation of the various services engaged on the work both agreeable and effective.

To Dr. Caswell Grave, secretary of the Commission, who, as editor of the Commission's annual report and Commissioner in charge of the biological and economic oyster investigations, has been brought into constant contact with the Government work and aided its operations in every way.

To Benjamin K. Green, treasurer of the Commission, who has looked after the equipment and commissary of the house boat in such a way as to add greatly to the comfort and convenience of the party of the Coast and Geodetic Survey.

To Swepson Earle, hydrographic engineer to the Commission, whose knowledge of the work from former service in the Coast and Geodetic Survey has greatly facilitated his practical use of the technical data furnished by the Government.

To Thomas H. Robinson, counsel to the Commission, for courteously furnishing valuable information relating to county boundaries.

And to the many others connected with the Commission or who as residents in the locality where the work was being carried on have greatly assisted by furnishing important information or willing services.

[a] These statistics only include field and office work directly performed by the party of the Coast and Geodetic Survey in connection with the oyster survey of Worcester County, and do not include the many thousands of soundings and examinations of the character of the bottom made by the engineers of the Commission, which are of considerable value to the Coast and Geodetic Survey as hydrographic records for future use in connection with the preparation of new editions of charts of the waters of Maryland.

CHARTS AND MAPS.

CHARTS OF NATURAL OYSTER BARS.

The charts[a] of the natural oyster bars of Worcester County, published by the Coast and Geodetic Survey from results of surveys of the Government in cooperation with the Maryland Shell Fish Commission, consist of three sheets covering the greater part of the shores of Chincoteague and Sinepuxent bays, including all oyster-producing bottoms of Worcester County. They are published on a scale of 1 part in 20,000 (approximately 3 1/6 inches to a statute mile) and are constructed on polyconic projections which are based on the United States standard datum of the Coast and Geodetic Survey.

These charts show all oyster bars and other boundaries established by the Commission, and are certified for the purpose of filing in the office of the clerk of the circuit court of Worcester County and in the office of the Commission at Annapolis, as required by the oyster laws of Maryland.

In addition to the oyster-bar and other boundaries, the charts show the location and name of all landmarks (U. S. Coast and Geodetic Survey triangulation stations) used in making the survey, together with the hydrography and topography[b] necessary to make the technical definitions and delineations of boundaries readily understandable both by the people engaged in the oyster industry and the general public who may become interested through leasing of barren bottoms for oyster culture.

The names of the oyster bars are those used locally, as nearly as could be ascertained by the hydrographic engineer of the Commission. When there was no local name in common use, a name was selected from one of the prominent features of the vicinity. By the use of recognized names or those that would naturally suggest certain sections of water, it is believed that much confusion will be avoided in the location on the charts of the oyster bars, especially by those not familiar with the use of maps.

The corners of the oyster bars are numbered from 1 to the total number of corners in each area under consideration. Where boundaries adjoin, making one point a corner of two or more oyster bars, these points have two or more numbers, each number corresponding to the bar in which the figure is located. The numbers of the corners correspond with the technical and legal descriptions of this publication under the heading "Boundaries of natural oyster bars."

The landmarks and oyster bars have been grouped in the "Contents" of this publication in accordance with the charts upon which they are shown. To find a

[a] These charts can be obtained by application to the Superintendent of the Coast and Geodetic Survey, at Washington, D. C.

[b] Much of the detail of the inshore topography was obtained from the excellent map of Worcester County prepared and published by the Maryland Geological Survey under the direction of Dr. William Bullock Clark from surveys of the Maryland Geological Survey in cooperation with the U. S. Geological Survey.

particular oyster bar or landmark which is only known by name, consult the "Contents" and the desired chart and general location will be indicated. To find the name of a bar or landmark which is only known by location, consult the progress map at the end of this publication for the number of the chart on which it is to be found, and then examine the known locality on the chart for the name of the bar or landmark in question.

The contours on the charts showing the depth of water at mean low tide have been taken from the hydrographic sheets of former work of the Coast and Geodetic Survey.

The boundaries of the waters within the "territorial limits of the county" opened up for the leasing with Worcester County are plainly indicated on the charts. A description of this boundary is given in this publication under the heading "Boundaries of the county waters."

The areas in acres of the oyster bars were determined under the direction of the hydrographic engineer of the Commission by two independent planimeter measurements of the areas as delineated on the smooth projections of the Coast and Geodetic Survey. These areas are given in small figures in parentheses on the face of the chart within the boundaries of the different shellfish bottoms.

The symbols used on the charts for the different kinds of boundaries, triangulation stations, contours of depth of water, etc., require no other explanation than that given in the legend and other notes on the face of the charts.

LEASING CHARTS.

The leasing charts of Worcester County, like those for Anne Arundel, Somerset, and Wicomico counties, have been prepared under the direction of the hydrographic engineer of the Commission. These charts are constructed on polyconic projections which are based on the United States standard datum of the Coast and Geodetic Survey. They are made on the scales of 1 part in 5,000 or 1 part in 10,000, as the needs of oyster culture may require. Anne Arundel County required 13 leasing charts, Somerset County 12, Wicomico County 2, and Worcester County 3 to cover their oyster bottoms.

These charts show all the oyster bars, crab bottoms, and clam beds and other boundaries established by the Commission, and also all boundaries of oyster lots leased for the purpose of oyster culture, thus making them comprehensive and valuable records of the results of the operations of the oyster-culture laws.

The lots leased under the provision of the "old 5-acre law" are frequently of irregular shape, but the lots leased under the provision of the new oyster laws must be of rectangular shape by the terms of that act. For this latter purpose the leasing charts have been divided by parallels of latitude and meridians of longitude into small rectangles of 1 acre or 5 acres, as may be best suited to the area under consideration, and prospective leaseholders by the rules of the Commission are compelled to select whole rectangles as far as practicable.

For reasons of the present changeable nature of the number of lots leased and the large number of charts required, the leasing charts are not likely to be published for some years, but they can be seen at any time on file at the offices of the Commission, in Annapolis.

PROJECTIONS.

The polyconic projections [a] covering Worcester County waters are 5 in number and on the scale of 1 part in 10,000. They were constructed by draftsmen of the Coast and Geodetic Survey, who also plotted the sextant positions which determine the location of the legal boundaries of the oyster bars as delineated by the Shell Fish Commission.

A copy of each of these projections, with all the plotted positions of triangulation stations, shore line, sextant positions, and boundaries of oyster bars, was made under the direction of the hydrographic engineer of the Commission by pricking through with a sharp needle the intersections of the projection lines and all other points as plotted on the original sheets.

These projections (in duplicate) are the original records of all oyster-bar and other boundaries established by the Commission, one set being filed in the archives of the Coast and Geodetic Survey, at Washington, and the other set in the office of the Shell Fish Commission, at Annapolis.

PROGRESS MAPS.

The progress map to be found at the end of this publication is on a scale of 1 part in 100,000, and shows in outline the work accomplished by the U. S. Coast and Geodetic Survey in Worcester County and contiguous waters. It gives the scheme of all the charts and smooth projections constructed in connection with the survey, the location and names of all triangulation stations used as a basis for the surveying work, and the "boundaries of county waters" established by the Commission for the purpose of carrying out the laws of Maryland relating to oyster culture.

Besides indicating the amount of work done by the Coast and Geodetic Survey in connection with the work of the Shell Fish Commission, this progress map will be of special value for index purposes to engineers and others searching for the particular chart or projection covering the locality of the oyster bars or landmarks that may be under consideration.

The progress maps [b] accompanying the first and second annual reports of the Maryland Shell Fish Commission were prepared under the direction of the hydrographic engineer of the Commission. They are on the scale of 1 part in 400,000, and show the outline of the tide-water counties of Maryland, with shaded areas to indicate the waters already covered by the operations of the oyster survey.

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[a] For the scheme of these projections see the progress map at the end of this publication.

[b] These maps and reports can be obtained by application to Maryland Shell Fish Commission, Annapolis, Md.

BOUNDARIES OF THE COUNTY WATERS.[a]

WATERS WITHIN TERRITORIAL LIMITS OF COUNTY.

The laws of Maryland relating to oyster culture provide that "no person shall be permitted, by lease, assignment, or in any other manner, to acquire a greater amount of land than ten acres situated within the territorial limits of any of the counties, or one hundred acres in any other place."

The boundary line[b] between the waters "within the territorial limits" of Worcester County and the waters in "any other place," as established by the Shell Fish Commission for the purpose of carrying out the oyster laws, and delineated on the charts and the smooth projections of the Coast and Geodetic Survey, is identical with the boundary line between the waters of Worcester County and the waters of the adjacent States of Delaware and Virginia excepting the waters of the Atlantic Ocean. Therefore technically all waters opened up for leasing with Worcester County are within the "territorial limits" of that county.

WATERS CONTIGUOUS TO COUNTY.

The oyster laws of Maryland provide that a true and accurate delineation of all natural oyster bars shall be made on copies of charts of the U. S. Coast and Geodetic Survey, "which said copies shall be filed in the office of the said Commissioners in the city of Annapolis," and "in the office of the clerks of the circuit courts for the respective counties wherein the grounds so designated may lie."

For the purpose of carrying out the latter part of this section of the law and for the purpose of establishing the limits of the oyster-culture area to be opened up for leasing with each county surveyed, it is necessary for the Shell Fish Commission to establish a boundary line between the waters contiguous to but not within the territorial limits of each county, and the waters contiguous to but not within the territorial limits of adjacent counties. But technically, as explained under the preceding heading of "Waters within territorial limits of county," there are no "waters contiguous to the county" in Worcester County excepting the waters of the ocean, and therefore there are no waters opened up for leasing with that county in which a person can lease "a greater amount than ten acres."

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[a] For a complete historical and legal description of the boundaries of the counties of Maryland, the valuable publication entitled "The Counties of Maryland—Their Origin, Boundaries, and Election Districts," prepared by Dr. Edward B. Mathews and published by the Maryland Geological Survey under the direction of Dr. William Bullock Clark, Superintendent, should be consulted, as the boundaries described in this publication have been established and technically defined for the purpose of carrying out the oyster laws of the State, and may or may not be correct for other purposes.

[b] See "Charts of Natural Oyster Bars," published by the Coast and Geodetic Survey, and the progress map at the end of this publication.

LANDMARKS (U. S. COAST AND GEODETIC SURVEY TRIANGULATION STATIONS).

EXPLANATION.

The oyster laws of Maryland authorizing the survey to be made by the Shell Fish Commission provide for "an accurate report of said survey, setting forth such a description of landmarks as may be necessary to enable the said board, or their successors, to find and ascertain the boundary lines of said natural oyster beds, bars, and rocks, as shown by delineation on the maps and charts." The law of the United States authorizing the cooperation of the Department of Commerce and Labor in the survey of natural oyster bars of Maryland provides for the erection of "such structures as may be necessary to mark the points of triangulation, so that the same may be used for such future work of the Coast and Geodetic Survey as the said Bureau may be hereafter required to perform in prosecuting the Government coast survey of the navigable waters of the United States located within the State of Maryland."

Under the provisions of the sections of the laws stated above, the markings and descriptions of landmarks must be sufficient for the present and future needs of both the Government and the State. With this end in view, considerable work has been expended in erecting permanent monuments at the triangulation stations and in the proper description of their location.

An effort has been made to arrange the descriptions of location and character of landmarks in a uniform and logical manner. The descriptions start with the assumption that the individual seeking a landmark has only an indefinite idea of its location. They gradually proceed from description of the general locality of a landmark to the descriptions of its immediate surroundings. This is followed by specific details of the character of the center and reference marks and a "round" of reference angles and distances which in themselves frequently contain enough information to furnish an independent and reliable location of the triangulation station.

METHOD OF DESCRIBING TRIANGULATION STATIONS.

The separate descriptions of triangulation stations should not be used without reading the following explanation of the method of describing the triangulation stations, as it contains certain details that are common to all the landmarks described in this publication and which are omitted in the separate descriptions as being needless repetitions.

Name.—The title at the top of each separate description is the name by which the landmark or triangulation station is known and designated in all work and published oyster records or oyster charts of both the Government and State. The selection of the name is usually left to the triangulator establishing the station, and it may or may not have geographic or other significance in reference to the locality.

General locality.—Under this heading is given the general locality of the landmark in reference to well-known and prominent natural or artificial features, such as the nearest body of water, town, river, steamer wharf, well-defined point of land, church, or any other feature that is likely to remain both permanent and prominent.

This heading also covers a reference to the published chart or map which shows the location of the station most clearly. Nearly all the triangulation stations described in this publication are plainly indicated by name and a triangulation symbol on the published charts of oyster bars of Maryland. In this case they are referred to by serial number only, the words "charts of oyster bars of Maryland" being omitted to avoid needless repetition. These published oyster charts are on the large scale of 1 part in 20,000 (approximately 3⅓ inches to a statute mile) and show the location of the triangulation stations so clearly that in many cases the written descriptions will not be required to find them.

Immediate locality.—Under this heading is given the description of the "observed station" in reference to its immediate surroundings. This is supposed to include a statement of the station's estimated elevation above high water or some other well-defined level of the locality, such as a road or house; the character of the ground on which it is located, such as marsh land, sand beach, cultivated field, or meadow; estimated bearings in points of the compass and estimated distances in yards *from* (*not to*) easily recognized features, such as extreme end of point, edge of bluff, bank of creek, line of telephone poles, shore line, barn, house, fence, ditch, trees, or any other definite detail, such as being on range with the tangent of an island and a church; and so forth.

When a standard monument has been established near the station as a "reference station," this heading also covers a statement of the true bearing of the monument in degrees and minutes and its measured distance in meters, as it is the first object that is likely to catch the eye when the immediate vicinity of the desired station is reached and might be mistaken for the center mark of the "observed station" unless special attention is called to it.

The distinction between the "observed station" and "reference station" should be carefully noted by anyone making use of the description of stations for any future surveying operations.

The "observed station" is located at the particular triangulation point covered by the description of stations, and is the one whose geographic position is first computed, as it is the point which was "occupied" and "observed on" for horizontal angles. However, in spite of the primary importance of the location of the "observed station," it will be noted from the description of stations that frequently it is not marked as well as the "reference station," and in many instances has only a pine stub to indicate its position. This is the case for the reason that the necessity of intervisibility of landmarks usually made it compulsory to locate "observed stations" on edges of banks and ends of points of land, which in the tide-water section of Maryland generally means they will be washed away in a short period of years. The past experience of the Coast and Geodetic Survey in this region has shown the great need of "reference stations," if the frequent reestablishment of a new framework of triangulation is to be avoided.

The chief reason and need for the establishment of the "reference station," or secondary station, as it might be well named, is explained in the preceding paragraph, but in several instances other reasons, such as the location of the "observed station"

on an unstable sand dune, in a cultivated field, in front of a residence, or other places objectionable to the landowner, have led to establishment of "reference stations." The location of the "reference station" in relation to the "observed station" is fixed for plotting on charts or for computation of its geographic position by checked measurements of its distances and azimuth from the "observed station."[a]

Marks.—Under this heading is given a description of the character of the permanent monuments or other marks of the location of the "observed station," and of the "reference station" where one has been established.

All the marks designated in the descriptions as "the center point of triangle on standard cement monument" are exactly alike. These monuments are made of cement, sand, and gravel, and are 2 feet long and 8 inches square at top and bottom. Their tops are all marked with the same brass mold and show a center hole surrounded by a triangle, with the letters "M. S. F. C." arranged around the vertex and the letters "U. S. C. S." underneath the base of the triangle. The center hole is always in the center of the top of the monument by construction, and if this is found to have been broken off without disturbing the bottom the center of its square section can be used as the location of the station.

All the "standard cement monuments," whether used for marking the "observed station" or "reference station," have been planted upright in exactly the same manner, with their tops projecting 3 or 4 inches above the surface of the ground, unless otherwise stated.

Therefore, as the above facts in reference to the "standard cement monuments" are a constant element in all cases, the repetition of these facts in the description of stations is made needless by this one statement.

References.—Under this heading are given the "rounds" of directions and distances to all objects that might be useful in locating the stations when the surface marks can not be found. It is also contemplated that for general purposes of topography, hydrography, or location of boundaries of oyster bars these references will be sufficient in many cases to relocate the position of an "observed station" or "reference station" when both of them have been destroyed.

The first reference object given in the descriptions is always a triangulation station visible from the station being described, this, if possible, being a light-house, church spire, or other permanent and prominent point. Its direction is taken as being 0° 00′ 00″, and the directions of all other objects are measured from it as an initial point, the angles being taken in a clockwise direction (left to right).

The true bearing[b] of the initial object is always given in parentheses alongside its name. This furnishes means for the calculation of the bearings of any of the other reference objects for the purposes of locating a station by horizontal angles or for the relocation of corner buoys of oyster-bar boundaries by the method of compass directions described in this publication under the heading of "Boundaries of oyster bars."

[a] Geographic coordinates (latitude, longitude, distance, and azimuth) relating to any of the "observed stations" or of the "reference stations" described in this publication can be obtained by application to the Superintendent of the Coast and Geodetic Survey, at Washington, D. C.

[b] The mean magnetic variation for Worcester County was 5° 55′ west of north in 1909 and increasing at the rate of 3½′ yearly.

The distances in the last column under "References" are given in three different units, which vary according to their accuracy. The "miles" are statute miles and may be considered only as rough estimates. The "yards" are more accurate, but must be looked on as results generally obtained by pacing or careful estimating. The "meters," however, are accurate to the degree indicated by their decimals and in every case have been measured with a steel tape. In the same manner the accuracy of the directions are indicated by the refinement of angular measure with which they are recorded.

DESCRIPTIONS OF TRIANGULATION STATIONS.

THOROFARE.

General locality.—Western shore of Sinepuxent Bay and southern shore of Isle of Wight Bay on land known as Drum Point. (See progress map.)

Immediate locality.—Observed station is on "Thorofare Farm," about 400 yards from Sinepuxent Bay and 165 yards southwest from the Thorofare. It is in a cultivated field about 8 feet above high-water mark on the second knoll southwest from the Thorofare, 400 yards north of "Thorofare Farm" house, 200 yards west of a wagon trail, and 32 yards southwest of the lowest point of the hollow between the two knolls.

Marks.—Observed station is center point of triangle on standard cement monument buried with top 12 inches below surface of ground. Cement monument marking reference station is in bottom of hollow between the two knolls 51.032 meters N 65° 21′ E of observed station and about on range with Isle of Wight Life-Saving Station.

References.—

	°	′	″	
"Hamilton" (S 32° 06′ E)	0	00	00	1½ miles.
Middle of lookout of Ocean City Life-Saving Station	5	09	--	1¾ miles.
Presbyterian Church spire	5	53	--	1¾ miles.
Flagstaff on middle of square roof of Atlantic Hotel	9	47	--	1⅞ miles.
Power-house chimney	9	53	--	1⅞ miles.
"Ocean City Water Tower"	9	55	--	1¾ miles.
Ice-plant stacks	17	12	--	2 miles.
Between two chimneys on top of Tabor house on Tabor Hill	24	01	--	1¾ miles.
Chimney of "Thorofare Farm" house	35	01	--	¼ mile.
Chimney on gray house	89	00	--	½ mile.
Left chimney on white house	116	04	--	1 mile.
Left chimney on white house	150	05	--	3 miles.
REFERENCE STATION	245	21	20	51.032 meters.
Center of Isle of Wight Life-Saving Station	245	24	30	4 miles.
"Convent Water Tower"	334	30	20	1¼ miles.
Episcopal Church spire	359	05	--	1½ miles.

COLLIER.

General locality.—Eastern shore of Sinepuxent Bay about one-half way between bay and ocean, ¼ mile north-northeast of "Convent Water Tower" and ½ mile south of Collier Islands. (See progress map.)

Immediate locality.—Observed station is on sand and grass beach land about 3 feet above high water, about 65 yards west of top of sand dunes, 8 yards north of a high-water overflow, and 42 yards west of line of telephone poles.

Marks.—Observed station is center point of triangle on standard cement monument buried with top 4 inches below surface of sand.

References.—

	°	′	″	
"Thorofare" (N 71° 43′ W)	0	00	00	1¼ miles.
Right tangent of Dog and Bitch islands	22	33	--	⅜ mile.
Left tangent of Collier Islands	46	12	--	½ mile.
Isle of Wight Life-Saving Station	86	55	--	3¾ miles.
Eighth telephone pole north of convent	137	40	10	50 yards.
Seventh telephone pole north of convent	233	01	40	65 yards.
Convent chimney	263	35	--	¼ mile.
"Convent Water Tower"	268	53	30	¼ mile.
Episcopal Church spire	271	19	30	1 mile.
Flagstaff on Atlantic Hotel	272	04	--	1½ miles.
Power-house chimney	272	55	--	1½ miles.
"Ocean City Water Tower"	274	05	--	1⅜ miles.
Ice-plant stacks	275	36	--	1¾ miles.
Left tangent of water tank at Ocean City bridge	281	53	--	1⅝ miles.
Between chimneys on Tabor house on Tabor Hill	288	06	--	1⅝ miles.
Chimney of "Thorofare Farm" house	345	11	--	1¼ miles.

CONVENT WATER TOWER.

General locality.—Between Sinepuxent Bay and Atlantic Ocean, about 1 mile north-northeast of "Ocean City Water Tower." (See progress map.)

Immediate locality.—Observed station is on a large wooden water-tower structure belonging to the Convent of Saint Rose, at Ocean City. This tower is detached from the main building and is a very prominent object.

Marks.—Observed station is center point of top part of water-tank structure.

References.—None necessary.

GANTT.

General locality.—Western shore of Sinepuxent Bay, opposite Ocean City and about ½ mile back from the water. (See progress map.)

Immediate locality.—Observed station is in cultivated field on Gantt (formerly Davis) farm, and is about 10 feet above high water. It is about 300 yards north by west of the old Davis farmhouse, on a ridge or slight rise of ground making out from woods, 260 yards east-southeast of old woods and 90 yards east of a young growth of pines adjacent to old woods. It is also about 70 yards north of east-and-west wire fence and ditch and 83 yards west of a north-and-south fence and road running to farmhouse. Cement monument marking reference station is 85.44 meters S 89° 48′ W of station in the edge of young growth of pines.

Marks.—Observed station is center point of triangle on standard cement monument buried with top 2 feet below the surface of the ground. Reference station is center point of triangle on standard cement monument with top about 4 inches above the ground.

References.—

	°	′	″	
"Harmon" (S 4° 38′ W)	0	00	00	1 mile.
REFERENCE STATION	85	10	30	85.44 meters.
East tip of barn roof	195	45	--	¾ mile.
Chimney of "Thorofare Farm" house	206	10	--	¾ mile.
Middle chimney of Convent	259	40	--	1½ miles.
Episcopal Church spire	286	35	30	1 1/4 miles.
Catholic Church cross	300	49	--	1¾ miles.
"Ocean City Water Tower"	303	30	--	1¾ miles.
Power-house chimney	304	19	--	1¾ miles.
Flagstaff on square roof of Atlantic Hotel	304	45	--	1¾ miles.
Ice-plant stack	316	53	--	1¾ miles.
Left chimney of house on Tabor Hill	320	28	--	1 mile.
Near chimney on house on Tabor farm	359	31	--	¾ mile.

HAMILTON.

General locality.—Eastern shore of Sinepuxent Bay, in Ocean City, about ½ mile northeast of the railway bridge and two-thirds the way from Sinepuxent Bay to the board walk on the ocean side. (See progress map.)

Immediate locality.—Observed station is on sand and grass land about 6 yards east-southeast of the extension of the east curb line of Philadelphia avenue, 145 yards northwest of Episcopal Church spire, 16 yards east-southeast of the telephone line edge of wagon trail along proposed Philadelphia avenue, and 40 yards north of an exposed line of sewer pipe.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Harmon" (S 66° 20′ W)	0	00	00	1¼ miles.
Chimney of house on Thorofare Farm	73	11	--	1½ miles.
Right tangent of Drum Point	91	14	--	1 mile.
Left tangent of island	110	31	--	¾ mile.
"Convent Water Tower"	140	43	--	¾ mile.
South end of roof of Quillin's cottage	183	33	--	400 yards.
Peak on tower of Doyle cottage	198	09	--	350 yards.
Chimney of Mervue cottage	226	40	--	350 yards.
Chimney of Hotel Hamilton	229	53	--	225 yards.
Episcopal Church spire	241	44	--	145 yards.
Chimney on Atkins cottage	275	50	--	175 yards.
Flagstaff on left end of Mount Pleasant Hotel	287	36	--	¼ mile.
Presbyterian Church spire	305	42	50	¼ mile.
Power-house chimney	308	56	--	¼ mile.
"Ocean City Water Tower"	312	31	--	½ mile.
Between two chimneys on Tabor house	347	40	--	1 mile.
Left chimney of Gray's house	357	14	--	1¼ miles.

OCEAN CITY WATER TOWER.

General locality.—Between Atlantic Ocean and Sinepuxent Bay, in Ocean City, Md. (See Chart No. 13.)

Immediate locality.—Observed station is located about 80 yards north by east of Ocean City railroad station, 30 yards south by west from curb of Talbot street, and 60 yards west by north from curb of Baltimore avenue. It is on a steel structure 100 feet high, supporting a large round water tank 25 feet deep, which is known as "Ocean City Water Tower."

Marks.—Observed station is center point of upper end of standpipe.

References.—None necessary.

HARMON.

General locality.—West shore of Sinepuxent Bay, about ¾ mile back from west end of railroad bridge and just south of the B. C. & A. railway tracks. (See Chart No. 13.)

Immediate locality.—Observed station is about 170 yards east of the first pine woods from the bay shore and about 145 yards east of some young growth pines adjacent to the woods. It is in a field about 72 yards south of the east and west railway tracks and about 65 yards south of the railway fence.

Marks.—Observed station is center point of triangle on standard cement monument buried with top about 12 inches below the surface of the ground.

References.—

	°	′	″	
"Gantt" (N 4° 38′ E)	0	00	00	1 mile.
Near chimney of Harmon house	1	46	--	¼ mile.
"Convent Water Tower"	48	59	30	1¾ miles.
Convent high chimney (not ventilator)	49	51	--	1¾ miles.
Episcopal Church spire	64	27	--	1¼ miles.
Presbyterian Church spire	71	26	--	1¼ miles.
Right chimney of Tabor house	75	--	--	¾ mile.

	°	′	″		
"Ocean City Water Tower"	77	04	10	------	1⅛ miles.
Power-house chimney	79	01	--	------	1 mile.
Flagstaff on square roof of Atlantic Hotel	80	18	--	------	1 mile.
Cropper's ice-plant stacks	92	31	--	------	1 mile.
Corner of fence and woods	218	--	--	------	242 yards.
Corner of railroad fence and woods	291	--	--	------	138 yards.
3 or 4 small trees	126	--	--	------	⅛ mile.
Left clump of trees	157	--	--	------	⅛ mile.

OCEAN.

General locality.—Eastern shore of Sinepuxent Bay, about one-third way from bay to ocean and about ⅜ mile south-southwest of "Ocean City Water Tower." (See Chart No. 13.)

Immediate locality.—Observed station is on sand and grass land about 8 yards east of telephone line and about 2 yards west of an old line of poles formerly used to support wires. It is apparently in proposed extension of Philadelphia avenue, but this is uncertain, as the street lines are indefinite in this locality.

Marks.—Observed station is center point of triangle on standard cement monument buried with top 12 inches below surface of sand.

References.—

	°	′	″		
"Buffing" (S 64° 10′ W)	0	00	00	------	1¼ miles.
Near corner of ice house sill	16	51	--	------	110 yards.
Left chimney on Harmon house	49	32	--	------	1 mile.
Left chimney of Tabor house	78	45	--	------	¾ mile.
Left stack of Cropper's ice plant	127	19	--	------	170 yards.
Left tangent of Captain Ludlam's office	133	04	--	------	165 yards.
Near chimney on Ocean City station	140	10	--	------	⅜ mile.
"Ocean City Water Tower"	141	52	--	--	⅜ mile.
Power-house chimney	146	17	--	------	⅜ mile.
Flagstaff on Atlantic Hotel	149	50	--	------	⅜ mile.
Chimney of 2½-story house	162	49	--	------	200 yards.
Near corner of house	181	58	--	------	200 yards.
Near corner of T. Cropper house	254	08	--	------	33 yards.
Chimney of white house	311	45	--	------	200 yards.
Near corner of Baker house	352	22	--	------	1¾ miles.
Baker windmill	353	18	--	------	1¾ miles.
Chimney of Buffington house	358	13	--	------	1¼ miles.
"Buffington Windmill"	358	35	--	------	1⅜ miles.

BUFFING.

General locality.—Western shore of Sinepuxent Bay, on lowland about 200 yards northeast of knoll known locally as "Steam Mill Hill" and about 1½ miles southwest of Ocean City. (See Chart No. 13.)

Immediate locality.—Observed station is on sand and loam land about 2 feet above high water, 25 yards west from shore, 65 yards northwest of where wire fence meets shore, 30 yards northeast of nearest point of fence, and 60 yards from junction of fence and pine woods.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Harmon" (N 13° 19′ E)	0	00	00	------	⅞ mile.
"Convent Water Tower"	29	02	--	------	2⅝ miles.
Between chimneys on Tabor house on Tabor Hill	30	34	--	------	1¼ miles.
Episcopal Church spire	36	31	--	------	2 miles.
Middle of Ocean City Life-Saving Station tower	41	35	--	------	2 miles.
"Ocean City Water Tower"	41	21	--	------	1¼ miles.

	°	′	″		
Power-house chimney	42	47	--	------	1½ miles.
Flagstaff on square roof of Atlantic Hotel	43	48	--	------	1½ miles.
Cropper's ice-plant stacks	47	19			1¼ miles.
Left end of fence at shore	155	01	--	------	65 yards.
Left chimney of Kelley brown house	187	03	--	------	1 mile.
Chimney at right end of roof of Buffington house	207	50	--	------	200 yards.
"Buffington Windmill"	213	28	--	------	200 yards.
Fence and woods	272	51	--	------	60 yards.
Chimney on top of hip roof of house	311	14	--	------	¼ mile.
Right tangent of woods	311	14	--	------	60 yards.
Middle of convent roof	29	53	--	------	2⅝ miles.

BUFFINGTON WINDMILL.

General locality.—Western shore of Sinepuxent Bay, on knoll known locally as "Steam Mill Hill" and about 1½ miles southwest of Ocean City. (See Chart No. 13.)

Immediate locality.—Near house belonging to Mr. Buffington.

Marks.—Observed station is center of windmill tower.

References.—None necessary.

GULL.

General locality.—Eastern shore of Sinepuxent Bay nearly halfway between bay and ocean and about 1 mile south-southwest of Ocean City. (See Chart No. 13.)

Immediate locality.—Observed station is on sand and grass beach land about 2 feet above high water, 130 yards west of Life-Saving Service telephone line, 200 yards west of top of sand dunes and 65 yards south of a square marble pillar projecting above ground in middle of a bare washed space. Cement monument marking reference station is 7.68 meters S 88° 58′ W of observed station and about on line with left end of woods below Buffington farmhouse.

Marks.—Observed station is nail in stub flush with sand and grass. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Buffing" (N 67° 04′ W)	0	00	00	------	¾ mile.
Right end of barn roof	9	19	--	------	1½ miles.
Chimney on near side of roof of gray house	12	07	--	------	1½ miles.
Near chimney of Harmon house	45	13	--	------	1¼ miles.
Near chimney of Gantt farm house	55	33	--	------	2¾ miles.
Near chimney of gray house	64	44	--	------	3 miles.
Near end of roof of Tabor house on Tabor Hill	74	42	--	------	1 mile.
Left tangent of water tank on left end of Ocean City bridge	82	54	--	------	1⅛ miles.
Between stacks of Cropper's ice plant	92	21	--	------	1 mile.
"Ocean City Water Tower"	93	34	--	------	1¼ miles.
Power-house chimney	94	54	--	------	1⅜ miles.
Flagstaff on square roof of Atlantic Hotel	95	54	--	------	1¼ miles.
Near chimney of Kelley house	304	04	--	------	1¼ miles.
Left chimney on Baker house	329	05	--	------	1⅛ miles.
Baker windmill	330	14	--	------	1 mile.
REFERENCE STATION	336	01	30	------	7.685 meters.
Chimney on Buffington house	352	42	--	------	¾ mile.

INKQUILL.

General locality.—Western shore of Sinepuxent Bay, near Coffins Point, about 2⅜ miles southwest of Ocean City. (See Chart No. 13.)

Immediate locality.—Observed station is on top of a shell knoll about 10 feet above high-water mark, 30 yards west of shore, 100 yards from corner of fence near Kelley house, 150 yards from near corner of Kelley house, and about 55 yards southeast of a ditch.

Marks.—Observed station is center point of triangle on standard cement monument buried with top 12 inches below surface of ground.

References.—

	°	′	″		
"Buffing" (N 20° 01′ E)	0	00	00	------	1 mile.
Near end of roof on Tabor house on Tabor Hill	13	27	--	------	2 1/4 miles.
"Convent Water Tower"	16	19	--	------	3 1/2 miles.
Between two chimneys on middle of convent roof	16	58	--	------	3 1/4 miles.
Church spire	20	05	--	------	2 3/4 miles.
"Ocean City Water Tower"	21	46	--	------	2 3/8 miles.
Power-house chimney	22	38	--	------	2 3/8 miles.
Flagstaff on square roof of Atlantic Hotel	23	15	--	------	2 3/8 miles.
Cropper's ice-plant stacks	23	32	--	------	2 miles.
Tangent of land	25	38	--	------	170 yards.
Tangent of land	89	52	--	------	40–50 yards.
Left tangent of fence	156	40	--	------	125 yards.
Corner of fence	178	05	--	------	100 yards.
Near chimney of Kelley house	184	04	--	------	150 yards.
Chimney of gray house	203	23	--	------	3 miles.
Chimney of large four-sided roof	215	03	--	------	1 1/2 miles.
Baker windmill	331	42	--	------	1/2 mile.
"Buffington Windmill"	356	42	--	------	3/4 mile.
Chimney of Buffington house	357	27	--	------	3/4 mile.

SEASIDE.

General locality.—Eastern shore of Sinepuxent Bay, about halfway between bay and ocean and about 2 1/4 miles south-southwest of Ocean City. (See Chart No. 13.)

Immediate locality.—Observed station is on sand and grass land about 4 feet above high water. It is on the north side of an overflow from the ocean, about 200 yards from Sinepuxent Bay and 120 yards west-northwest of sand dunes between the ocean and the station. Cement monument marking reference station is 10.32 meters N 52° 39′ E of observed station. No other permanent reference objects near station.

Marks.—Observed station is nail in stub flush with ground. Reference station is center point of triangle on standard cement monument with top 4 inches above ground.

References.—

	°	′	″		
"Inkquill" N 66° 35′ W)	0	00	00	------	3/4 mile.
Baker house	22	--	--	------	1 mile.
Chimney on Buffington house	43	56	--	------	1 1/4 miles.
Tabor house on Tabor Hill	78	35	--	------	2 miles.
"Ocean City Water Tower"	89	18	--	------	2 1/4 miles.
Power-house chimney	90	01	--	------	2 1/4 miles.
Flagstaff on square roof of Atlantic Hotel	90	35	--	------	2 1/4 miles.
Telephone pole	106	40	10	------	81.4 meters.
REFERENCE STATION	109	14	20	------	10.32 meters.
Telephone pole	141	07	00	------	39.5 meters.
Telephone pole	217	51	10	------	47.8 meters.
Right chimney of Coffin Hotel	321	47	--	------	2 miles.
Right chimney of Kelley brown house	353	40	--	------	3/4 mile.

ELLPOW.

General locality.—Western shore of Sinepuxent Bay, about ¼ mile inland from what is known locally as Powell Point and about 3½ miles southwest of Ocean City. (See Chart No. 13.)

Immediate locality.—Observed station is on marshy grass land well back from bay, near a property line indicated by crab apple trees and a wire fence which runs from bay to crab apple trees and joins a snake fence. It is about ¼ mile southeast of Hastings house, about ¼ mile southwest of Kelley house, and about ¼ mile northeast of Coffin Hotel (a large, unpainted, square house with four-sided roof). Cement monument marking reference station is 7.20 meters S 83° 50′ W of observed station.

Marks.—Observed station is nail in pine stub flush with the ground. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Fassett" (S 10° 32′ W)	0	00	00	1¼ miles.
"North Beach Life-Saving Station"	0	10	30	6⅝ miles.
Chimney of Henry brick house	9	48	--	1⅞ miles.
Chimney on right side of four-sided roof of Coffin Hotel	59	46	--	¼ mile.
REFERENCE STATION	73	18	00	7.20 meters.
Chimney on left end of roof of Hastings house	133	16	--	¼ mile.
Baker windmill	203	41	--	1⅜ miles.
Center of roof of Baker house	205	02	--	1⅜ miles.
"Buffington Windmill"	205	39	--	1⅞ miles.
Chimney of Buffington house	206	00	--	1⅞ miles.
"Ocean City Water Tower"	214	08	--	3½ miles.
Power-house chimney	214	44	--	3½ miles.
Flagstaff on square roof of Atlantic Hotel	215	10	--	3½ miles.

BEACH.

General locality.—Eastern shore of Sinepuxent Bay, about halfway between bay and ocean and about 3 miles south-southwest of Ocean City. (See Chart No. 13.)

Immediate locality.—Observed station is on sand and grass beach land about 3 feet above high water, 250 yards west of shore of Sinepuxent Bay and 2 feet east of line of telephone poles. Cement monument marking reference station is 6.40 meters N 0° 23′ E of observed station. No other permanent reference objects near station.

Marks.—Observed station is center point of triangle on standard cement monument. Reference station is center point of triangle on standard cement monument. (NOTE.—Reported lost in shifting sand at date of publication.)

References.—

	°	′	″	
"Inkquill" (N 22° 59′ W)	0	00	00	1⅛ miles.
Cupola on Baker house	3	15	--	1½ miles
Baker windmill	4	14	--	1½ miles.
Nearest chimney on Baker house	5	07	--	1½ miles.
Cupola on Buffington barn	15	20	--	1⅞ miles.
"Buffington Windmill"	16	41	--	1⅞ miles.
Chimney on left end of roof of Buffington house	17	00	--	1⅞ miles.
REFERENCE STATION	23	21	50	6.40 meters.
Between two chimneys on Harmon house	24	21	--	2⅞ miles.
Tabor house on Tabor Hill	37	08	--	2⅞ miles.
Cropper's ice-plant stacks	44	00	--	2¾ miles.
"Ocean City Water Tower"	44	58	--	3 miles.
Flagstaff on square roof of Atlantic Hotel	45	54	--	3 miles.
Point of four-sided roof	249	21	--	3⅜ miles

	°	′	″		
"Longwells Windmill"	249	45	--	------	3⅜ miles.
Chimney on near end of Henry brick house	287	40	--	------	2 miles.
Left tangent of Coffin Hotel	301	13	--	------	2 miles.
Right chimney of large white house	315	37	--	------	2 miles.
Left chimney on Kelley brown house	356	21	--	------	1⅛ miles.

FASSETT.

General locality.—Western shore of Sinepuxent Bay about ½ mile north-northeast of Fassett Point. (See Chart No. 13.)

Immediate locality.—Observed station is on shell and marsh land about 2 feet above high water, 120 yards south by east from slough making into marsh, about 140 yards west of side of point, and 110 yards north of side of point. It is about 200 yards northeast of a fence with a clump of trees beyond it.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"North Beach Life-Saving Station" (S 10° 43′ W)	0	00	00	------	5¼ miles.
Tangent of point	7	45	--	------	300 yards.
"Nellys"	13	56	40	------	¾ mile.
Left of clump of trees	21	33	--	------	500 yards.
Right edge of clump of trees	51	20	--	------	400 yards.
Chimney on gray house	89	05	--	------	⅝ mile.
Right tangent of roof of brick house	133	15	--	------	¾ mile.
Chimney on center of red roof on white house	141	26	--	------	¾ mile.
Chimney on left side of a French roof house	165	10	--	------	2 miles.
Slough	167	--	--	------	120 yards.
Baker windmill	192	36	--	------	2¼ miles.
Chimney on right edge of Baker house	193	24	--	------	2½ miles.
"Buffington Windmill"	195	27	--	------	3 miles.
Between chimneys on Tabor house near Ocean City bridge	200	53	--	------	4½ miles.
"Ocean City Water Tower"	205	23	--	------	4⅝ miles.
"Convent Water Tower"	203	05	--	------	5 miles.
Power-house chimney	205	49	--	------	5 miles.
Flag pole on square roof of Atlantic Hotel	206	08	--	------	4⅝ miles.

SHORE.

General locality.—Eastern shore of Sinepuxent Bay, about halfway between the bay and the ocean and about 4¾ miles south-southwest of Ocean City. (See Chart No. 13.)

Immediate locality.—Observed station is on sand and grass beach land about 2 feet above high water and 16 yards east of line of Life-Saving Service telephone line poles. Cement monument marking reference station is 6.78 meters N 72° 59′ E of observed station. No other permanent objects near station.

Marks.—Observed station is nail in stub about 3 inches above sand. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Ellpow" N 29° 35′ W)	0	00	00	------	1¾ miles.
Chimney of gray house	21	19	--	------	2¼ miles.
Baker windmill	28	55	--	------	2⅝ miles.
Left chimney of Kelley brown house	29	32	--	------	2 miles.
Baker house beyond	29	33	--	------	2½ miles.
"Buffington Windmill"	34	59	--	------	3 miles.
Buffington house chimney	35	11	--	------	3 miles.

	°	′	″		
Chimney of Tabor house on Tabor Hill	46	35	--	------	4⅛ miles.
"Ocean City Water Tower"	52	06	--	------	4¼ miles.
Power-house chimney	52	29	--	------	4¼ miles.
REFERENCE STATION	102	33	45	------	6.78 meters.
Top point of large four-sided roof	267	58	--	------	2¼ miles.
"Longwells Windmill"	268	30	--	------	2¼ miles.
Large chimney on house in woods	278	02	--	------	2⅛ miles.
Left chimney of Henry house	287	35	--	------	1½ miles.
Left chimney of brick house	330	41	--	------	2 miles.
Chimney on left end of gray house	340	06	--	------	2 miles.
Left chimney of Coffin Hotel	349	42	--	------	1¾ miles.

NELLYS.

General locality.—Western shore of Sinepuxent Bay, about 1¼ miles north of Sandy Point on a point of land near place called Nellys Bar. See Chart No. 13.)

Immediate locality.—Observed station is about 5 feet above high water, 45 yards west-northwest of extreme end of point, 25 yards from north side of point and 20 yards from south side of point. It is on the edge of a cultivated field and about ¼ mile southeast of a large old-fashioned 2½-story brick house.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Fassett" N 24° 40′ E)	0	00	00	------	¾ mile.
"Buffington Windmill"	1	11	30	------	4 miles.
Chimney of Buffington house	1	22	--	------	4 miles.
Between two chimneys on Kelley house	3	54	--	------	2⅞ miles.
Near end of roof of Tabor house	5	51	--	------	5 miles.
"Convent Water Tower"	8	00	--	------	6½ miles.
Middle of convent	8	21	--	------	6½ miles.
Church spire	9	24	--	------	6 miles.
Church spire	9	36	--	------	6 miles.
"Ocean City Water Tower"	9	43	--	------	6 miles.
Power-house chimney	10	05	--	------	6 miles.
Middle of square roof of Atlantic Hotel	10	22	--	------	6 miles.
"North Beach Life-Saving Station"	163	40	40	------	4⅝ miles.
Tangent of Sandy Point	174	02	--	------	1¼ miles.
Weather vane on Longwell house	192	40	--	------	1 mile.
"Longwells Windmill"	194	06	--	------	1 mile.
Left chimney of Henry brick house	300	02	--	------	¼ mile.

BAR.

General locality.—Eastern shore of Sinepuxent Bay, about halfway between bay and ocean and about 5¼ miles south-southwest of Ocean City. (See Chart No. 13.)

Immediate locality.—Observed station is on sand and grass beach land about 3 feet above high water, 110 yards west of top of sand dunes, and 5 yards east of line of Life-Saving Service telephone poles. There are no permanent objects near the station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Nellys" (N 66° 14′ W)	0	00	00	------	1⅛ miles.
Southerly chimney of Henry brick house	4	33	--	------	1¼ miles.
Chimney on northerly end of roof with two gable windows	34	33	--	------	2 miles.
Chimney on middle of red roofed white house	37	42	--	------	2¾ miles.
Left chimney of large white house	39	27	--	------	2⅜ miles.

	°	′	″		
Chimney on southerly corner of four-sided roof of gray house	48	20	--	------	2¼ miles.
Baker windmill	72	16			3½ miles.
"Buffington Windmill"	76	16	--	------	3⅞ miles.
Buffington house chimney	76	25	--	------	3⅞ miles.
"Ocean City Water Tower"	89	05	--	------	5¼ miles.
Power-house chimney	89	24	--	------	5¼ miles.
Telephone pole	80	28	--	------	32 yards.
Telephone pole	275	45	--	------	65 yards.
Middle of roof of Longwell house	324	48	--	------	1½ miles.

LONGWELLS WINDMILL.

General locality.—Western side of Sinepuxent Bay, about ½ mile north by west from Sandy Point. (See Chart No. 13.)

Immediate locality.—Observed station is on tower in rear of house on "Longwell Farm."

Marks.—Observed station is center of windmill.

References.—None necessary.

SANPOI.

General locality.—Western shore of Sinepuxent Bay, on Sandy Point. (See Chart No. 13.)

Immediate locality.—Observed station is on sage land 2 feet above high-water mark, about 80 yards west of extreme end of point, which is well rounded, 40 yards north of one shore of the point and 110 yards south of the other shore of the point. It is about 25 yards east-southeast of one end of a grove of crab-apple trees and about 110 yards south of the other end. Small bushes about 18 inches high surround station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"North Beach Life-Saving Station" (S 3° 33′ W)	0	00	00	------	3⅜ miles.
North Beach Life-Saving Station flagstaff	0	15	--	------	3⅜ miles.
Tangent to "Indian Graveyard Point"	36	44	--	------	1 mile.
Crab-apple tree	64	--	--	------	70 yards.
Southerly chimney of stone house	70	15	--	------	¼ mile.
Left end of grove of crab-apple trees	118	--	--	------	25 yards.
Dark brown house	191	--	--	------	1¼ miles.
"Ocean City Water Tower"	208	10	--	------	6¼ miles.
Chimney on Baker barn	199	19	--	------	4¾ miles.
Chimney on Baker house	199	41	--	------	4¾ miles.
Tabor house near Ocean City bridge	204	58	--	------	6⅜ miles.

MUD.

General locality.—Eastern shore of lower Sinepuxent Bay, about two-thirds way from bay to ocean and 1 mile east-southeast of Sandy Point. (See Chart No. 13.)

Immediate locality.—Observed station is on sandy ground about 3 feet above high water, 60 yards west-northwest from top of a sand dune, 100 yards east of head of a small, narrow inlet from Sinepuxent Bay, and 110 yards east-southeast of a line of Life-Saving Service telephone poles which pass about 18 yards to the east of the wagon trail. Cement monument marking reference station is 18.84 meters N 57° 54′ W of observed station. No other permanent reference objects near station.

Marks.—Observed station is a nail in a stub flush with the sand. Reference station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"North Beach Life-Saving Station" (S. 21° 39′ W)	0	00	00	------	3¼ miles.
Telephone pole	49	01	--	------	150 yards.
Southerly chimney of storehouse	78	50	--	------	1½ miles.

	°	′	″		
Telephone pole	83	07			110 yards.
REFERENCE STATION	100	26	50		18.84 meters.
Northerly end of ridge of roof of large barn	104	09	--		1¾ miles.
"Longwells Windmill"	108	26	--		1½ miles.
Top point of four-sided roof	108	27	--		1⅝ miles.
Chimney on southerly end of long building	119	05	--		1¾ miles.
Telephone pole	120	29	--		125 yards.
Near chimney of brick house	139	44	--		2 miles.
"Ocean City Water Tower"	180	56	20		6½ miles.

INGRAYA.

General locality.—Western shore of Sinepuxent Bay, on easterly side of Sinepuxent Neck, on point known locally as Indian Graveyard. (See Chart No. 13.)

Immediate locality.—Observed station is about 5 feet above high water, 55 yards north of nearest shore, 180 yards west of extreme end of point near bushes, and 80 yards east of where a ditch coming from the northward turns to westward. Two trees, each about 75 yards distant, are located on the line of the ditch.

Marks.—Observed station is center point of triangle on standard cement monument buried with top 14 inches below surface of ground.

References.—

	°	′	″		
"North Beach Life-Saving Station" (S 12° 25′ E)	0	00	00		2¾ miles.
Tangent to Green Point	42	19	--		½ mile.
Corner of ditch	109	10	--		80 yards.
Tree, 8 inches diameter	118	20	--		75 yards.
Tree, 8 inches diameter	162	24	--		80 yards.
Near chimney of 2½-story house (Hawks Nest)	216	54	--		¾ mile.
"Longwells Windmill"	219	50	--		1½ miles.
Tangent of Sandy Point	239	43	--		1¾ miles.
Bushes to east of end of point	299	--	--		180 yards.

SALT.

General locality.—Eastern shore of lower Sinepuxent Bay, about two-thirds way from bay to ocean and 1¼ miles south-southeast of Sandy Point. (See Chart No. 13.)

Immediate locality.—Observed station is on sand and marsh beach land about 3 feet above high water, 105 yards east by south of line of poles of Life-Saving Service telephone line, and 175 yards east of a small creek known as "Jones Salt Works Drain." No permanent objects near station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"North Beach Life-Saving Station" S 20° 36′ W)	0	00	00		2 miles.
North Beach Life-Saving Station flagstaff	0	14	20		2 miles.
Telephone pole	50	36	--		175 yards.
Telephone pole	72	36	--		135 yards.
Jones Salt Works Drain	80	--	--		175 yards.
Telephone pole	111	48	--		135 yards.
Left chimney of stone house	121	44	--		1¾ miles.
Telephone pole	137	07	--		200 yards.
"Longwells Windmill"	141	23	--		2 miles.
Center of roof of white house	141	44	--		2½ miles.
Near chimney of 2¼-story house	150	21	--		4½ miles.
"Ocean City Water Tower"	182	07	40		7¾ miles.

NORTH BEACH LIFE-SAVING STATION.

General locality.—Atlantic coast side of strip of beach land between lower Sinepuxent Bay and the ocean. (See Charts Nos. 13 and 14.)

Immediate locality.—Observed station is on lookout cupola on the North Beach Life-Saving Station. This cupola is a gable-roof structure on a gable-roof 2½-story house.

Marks.—Observed station is a black and white 4 by 4 inch pole secured temporarily to the exact middle of ridge of gable roof of lookout cupola.

References.—None necessary.

BIRCH.

General locality.—Southern part of Sinepuxent Neck, between Sinepuxent Bay and Newport Bay, about ½ mile north-northwest of South Point. (See Charts Nos. 13 and 14.)

Immediate locality.—Observed station is on the northwest and higher of two knolls about 20 feet above high-water mark, 600 yards east of Island Point, 200 yards northeast of shore of upper Chincoteague Bay, 75 yards east-southeast of where a ditch and fence meet, and about 400 yards southwest of a house and barn.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Guilberts Cupola" (S 48° 09′ W)	0	00	00		6¾ miles.
Chimney on left of a small house	12	13	--		4¾ miles.
Nail in blaze in walnut tree (20 inches diameter)	25	14	--		28.61 meters.
Chimney on black roof of white house	28	46	--		4¼ miles.
"Handys Hammock"	34	41	30		3 miles.
Cedar tree	41	39	--		80 yards.
Jones windmill	47	27	--		3½ miles.
Nail in blaze in walnut tree	66	33	40		25.52 meters.
Chimney of house near "Newport"	83	50	--		2½ miles.
Holly tree	156	57	--		150 yards.
Cedar tree near Birch farm buildings	184	58	--		300 yards.
Chimney of Birch farm house	192	32	--		300 yards.
Cedar tree	229	57	--		195 yards.
Chimney of hotel near "North Beach Life-Saving Station"	259	49	--		2¼ miles.
Nail in blaze in walnut tree	341	34	--		12.72 meters.

NECK.

General locality.—Northeastern shore of Newport Bay, on easterly side of Newport Neck between Greys Inlet and Spence Cove. (See Chart No. 13.)

Immediate locality.—Observed station is on marsh land about 400 yards northeast of Knot Point, 100 yards north from shore of Spence Cove, 50 yards northwest of small marsh inlet, and 10 yards south of edge of a prominent grove of old oaks. There are bushes between the station and the oak grove. Cement monument marking reference station is 12.72 meters N 7° 23′ W from observed station.

Marks.—Observed station is center point of triangle on standard cement monument. Reference station is center point of triangle on standard cement monument. (NOTE.—Top disconnected, but recemented.)

References.—	°	′	″		
"Handys Hammock" (S 53° 53′ W)	0	00	00		3 miles.
Tall water bushes	17	--	--		75 yards
House behind bushes	17	33	--		4½ miles.
Left chimney of large house	29	37	--		2¾ miles.
Chimney of 1½-story white house	43	48	--		1½ miles.
Left edge of oak grove	81	14	--		25 yards.
Nail in blaze of persimmon tree (3 inches diameter)	100	36	50		12.24 meters

	°	′	″		
Nail in blaze in oak tree (12 inches diameter)	117	35	30		25.28 meters.
REFERENCE STATION	118	43	40		12.72 meters.
Nail in blaze in oak tree	173	04	--		17.88 meters.
Chimney of house in woods	216	32	--		¾ mile.
Left chimney of large house	277	26	--		1 mile.
Tangent of marsh	253	07	--		¼ mile.
Right tangent of Island Point	304	29	--		1½ miles.
Tangent of marsh point	334	02	--		¼ mile.

NEWPORT.

General locality.—Northwestern shore of Newport Bay on easterly side of elevated land known as Cropper Island. (See Chart No. 13.)

Immediate locality.—Observed station is on elevated tilled land about 5 feet above high-water mark, 200 yards west of mouth of marsh creek in bay shore, and 150 yards south of the only house on the island. It is near east edge of tilled land, about 70 yards west from edge of marsh. The tilled and marsh land is separated by a strip of land covered with trees.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Neck" (S 86° 10′ E)	0	00	00		1½ miles.
A house	22	42	--		2 miles.
Chimney of Birchs house	32	29	--		2½ miles.
Walnut tree (24 inches diameter)	83	53	--		70 yards.
Three trees	94	--	--		150 yards.
Left tangent of point of land	115	07	--		1 mile.
New barn	129	06			2½ miles.
Chimney on house	133	39			1½ miles.
Chimney on left end of house	158	36	--		1 mile.
Thorn bushes	171	44	--		150 yards.
Chimney on house	266	57	--		150 yards.
Double walnut tree	297	41	--		250 yards.
Well sweep	214	11	--		200 yards.

HANDYS HAMMOCK.

General locality.—Western shore of upper end of Chincoteague Bay and western side of entrance to Newport Bay on solid land partly surrounded by marsh known as Handys Hammock. (See Charts Nos. 13 and 14.)

Immediate locality.—Observed station is on a sand knoll about 10 feet above high water and 140 yards west-northwest from the extreme end of the narrow point on which it is situated. It is about 35 yards west of another short point, 30 feet south-southwest of shore at a sand beach, 20 yards north of a thorn bush and 50 yards north-northwest of a small pool 20 feet square.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"North Beach Life-Saving Station" S 82° 13′ E)	0	00	00		5 miles.
North Beach Life-Saving Station flagstaff	00	14	--		5 miles.
Left edge of woods beyond Kelleys Point	106	39	--		2¼ miles.
Myrtle tree	115	42	--		50 yards.
Chimney on left end of large white house	131	57	--		1¾ miles.
Chimney right end of another large white building	136	48	--		2¾ miles.
Center of large white house	146	42	--		1¾ miles.
Right end of new barn roof	178	12	--		1¾ miles.
Windmill	221	42	--		½ mile.

	°	′	″		
Chimney of house with two piazzas	224	17	--	------	½ mile.
Chimney of large unpainted house	251	18	--	------	1 mile.
Middle of clump of 12 persimmon trees	267	35	--	------	50 yards.
Chimney on near end of large white house	289	48	--	------	2¼ miles.
Tangent to South Point	354	31	--	------	3 miles.

BEACON CLUMPS.

General locality.—Easterly side of upper Chincoteague Bay, on the southern and larger of the two small marsh islands called Beacon Clumps. (See Chart No. 14.)

Immediate locality.—Observed station is on a small marsh island covered at extreme high water. It is situated about 35 yards south of shore, 22 yards west of shore, 28 yards north of shore, and 75 yards east of shore.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Guilberts Cupola" S 78° 50′ E)	0	00	00	------	4½ miles.
Modern house being constructed	2	58	--	------	4½ miles.
Silo building	3	18	--	------	4½ miles.
Chimney of Jones house on Newport Bay	51	50	--	------	6¼ miles.
Near end of roof of house on South Point	86	18	--	------	5½ miles.
First tree near North Beach Life-Saving Station	103	21	--	------	5 miles.
North Beach Life-Saving Station flagstaff	111	13	--	------	5 miles.
"North Beach Life-Saving Station"	111	15	20	------	5 miles.
Other Beacon Clump	116	--	--	------	¼ mile.
Green Run Inlet Life-Saving Station lookout	255	46	--	------	3½ miles.
Right end of Green Run Inlet woods	271	31	--	------	3½ miles.
Between two chimneys on cream-colored house	339	--	--	------	5½ miles.

TURNAGAIN.

General locality.—Eastern shore of Chincoteague Bay, on main land marsh about 1 mile southeast of Whittington Point. (See Charts Nos. 14 and 15.)

Immediate locality.—Observed station is on marsh land awash at high water, about 75 yards south from shore, 55 yards east from shore, and about 83 yards west from shore of a small bay. A creek runs nearly around this piece of marsh, but does not make an island of it. No permanent reference marks near station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Pope Island Life-Saving Station" (S 15° 22′ W)	0	00	00	------	4¾ miles.
Point of land	18	02	--	------	¼ mile.
Point of land	34	23	--	------	2 miles.
Point of marsh	91	11	--	------	⅛ mile.
Point of land	97	54	--	------	¼ mile.
Point of land	164	16	--	------	¼ mile.
Point of this marsh	194	28	--	------	⅛ mile.
Beginning of woods	251	41	--	------	1 mile.
Cut in top of woods	281	41	--	------	¾ mile.
End of woods	313	19	--	------	½ mile.
Sand dune behind woods	330	44	--	------	1¾ miles.
Clump of trees	336	32	--	------	1¾ miles.
Duck blind	355	44	--	------	1 mile.

GREEN RUN INLET LIFE-SAVING STATION FLAGSTAFF.

General locality.—Atlantic coast, about 18 miles south-southwest of Ocean City and about 15 miles northeast by north of "Assateague Light." (See Charts Nos. 14 and 15.)

Immediate locality.—Observed station is detached flagstaff with a topmast belonging to Green Run Inlet Life-Saving Station.

Marks.—Observed station is center of flagstaff.

References.—None necessary.

LANDLET.

General locality.—Western shore of Chincoteague Bay, about 2¼ miles south of Snow Hill Landing, on point of land known locally as Watermelon Point. (See Chart No. 14.)

Immediate locality.—Observed station is on a small sandy island surrounded by marsh land and about 20 yards west of shore. This so-called island is the only hard land on the marsh point and is about ⅛ mile to the east of the nearest solid land.

Marks.—Observed station is center point of triangle on standard cement monument buried with top 2 inches below surface of ground.

References.—

	°	′	″	
"Guilberts Cupola" (N 7° 05′ E)	0	00	00	2¼ miles.
Chimney of white house	8	02	--	4 miles.
Right of Green Run woods	111	29	--	5 miles.
"Pope Island Life-Saving Station"	151	52	--	6¾ miles.
Four trees on Martin Point	185	21		1 mile.
Left of clump of trees called Purnell Hammock	197	23	--	¾ mile.
House	217	55	--	6 miles.
Large tree	245	16	--	¼ mile.
Chimney of white house	264	00	--	¾ mile.
Cedars on property line	275	50	--	⅜ mile.
Chimney on middle of house	316	13	--	1 mile.
Chimney outside of house	328	08	--	1¼ miles.
Near end of large barn	342	05	--	1¼ miles.

GUILBERTS CUPOLA.

General locality.—Western shore of Chincoteague Bay, close to Snow Hill Landing. (See Chart No. 14.)

Immediate locality.—Observed station is on a large mansion house located about 100 yards northwest of the land end of Snow Hill Landing.

Marks.—Observed station is center point of top of cupola.

References.—None necessary.

RICKS.

General locality.—Western shore of upper Chincoteague Bay, on point of marsh land about 1½ miles northeast of Snow Hill Landing called Ricks Point. (See Chart No. 14.)

Immediate locality.—Observed station is on a marsh point about 20 yards west from a pool making into marsh, 20 yards south from shore and 90 yards north of shore.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″	
"Green Run Inlet Life-Saving Station flagstaff" (S 31° 48′ E)	0	00	00	6¼ miles.
Green Run Inlet Life-Saving Station cupola	0	08	05	6¼ miles.
Right tangent of Green Run woods	7	45	--	7 miles.
Right tangent of pool	32	18	--	20 yards.
Right tangent of Martin Point	52	30	--	4½ miles.
Center of Purnell Hammock	57	22	--	4½ miles.
Left tangent of point	61	07		¼ mile.
Guilbert windmill	83	26	--	1½ miles.

	°	′	″		
Chimney near end of house	118	37	--	------	1 mile.
To first of four points of land or line	189	54	--	------	100 yards.
Windmill on red tank	195	32	--	------	2 miles.
Center of thick woods	201	09	--	------	1½ miles.
Right tangent of Kelleys Point	231	01	--	------	2 miles.
North Beach Life-Saving Station flagstaff	279	42	20	------	6¼ miles.
Left tangent of pool	293	51	--	------	40 yards.
Left tangent of Robins marsh	329	25	--	------	¾ mile.
"Beacon Clumps"	332	26	25	------	3¾ miles.
Mouth of pool	340	26	--	------	30 yards.
Right tangent of Robins marsh	349	02	--	------	¾ mile.

MARYLAND–VIRGINIA LIFE-SAVING STATION BEACH).

General locality.—Atlantic coast near ocean beach, on boundary line between Maryland and Virginia and about ¼ mile north-northeast of Pope Island Life-Saving Station. (See Chart No. 15.)

Immediate locality.—Observed station is on marsh and sand land about 230 yards northwest of high-water mark on beach, 75 yards west of top of sand dunes on inner edge of beach, and about 50 yards northwest of the Life-Saving Service telephone line which runs along the beach in midst of bushes at this point.

Marks.—Observed station is the center of an old granite monument (said to have been established many years ago) which marks the boundary between Maryland and Virginia. Top of monument is 6 by 6 inches square and projects 18 inches above the ground. The top is marked with an east-and-west line from corner to corner and the letters "M" and "V" to indicate the Maryland and Virginia sides of the boundary, respectively.

References.—

	°	′	″		
"Pope Island Life-Saving Station" S 20° 12′ W)	0	00	00	------	¼ mile.
Left peak of barn roof	5	39	--	------	¼ mile.
"Maryland–Virginia Boundary, Pope Island"	63	55	--	------	¾ mile.
Chimney on old house on Pope Island	68	41	--	------	¾ mile.
Pine tree in cut toward "Mill"	92	55	--	------	¼ mile.
First telephone pole from end of bushes	195	52	--	------	190 yards.
Fifth telephone pole from end of bushes	205	25	--	------	110 yards.
Sixth telephone pole from end of bushes	263	06	--	------	52 yards.
Seventh telephone pole from end of bushes fourth from life-saving station)	330	58	--	------	88 yards.
Eighth pole signal pole at life-saving station)	357	03	--	------	¼ mile.

MARYLAND–VIRGINIA (POPE ISLAND).

General locality.—Western side of Pope Bay on eastern side of Pope Island, about ¼ mile northeast of its southern extremity and on boundary between Maryland and Virginia. (See Chart No. 15.)

Immediate locality.—Observed station is on hard land 3 feet above high-water mark, about 10 yards west of shore, 85 yards south of an old house, and 10 yards east of bushes.

Marks.—Observed station is the center of an old granite monument projecting 18 inches above ground which marks the boundary between Maryland and Virginia. Top of monument is cut in a square 6 by 6 inches with an east-and-west line from corner to corner and the letters "M" and "V" to indicate the Maryland and Virginia sides of the boundary, respectively.

References.—

	°	′	″		
"Pope Island Life-Saving Station" (S 73° 45′ E)	0	00	00	------	¼ mile.
Right tangent of shanty	15	32	--	------	¾ mile.
Right tangent of boathouse	40	22	--	--	¼ mile.
Center of small island	101	--	--	------	¼ mile.
Tangent of Pope Island	113	38	--	------	¼ mile.

	°	′	″		
Two large pines	139	07	--	------	¼ mile.
Left of bushes	191	56	--	------	10 yards.
Near corner of old house	283	08	--	------	85 yards.
Point of land near life-saving station wharf	336	22	--	------	¼ mile.
Drill pole near life-saving station	355	29	--	------	½ mile.

POPE ISLAND LIFE-SAVING STATION (VIRGINIA).

General locality.—Atlantic coast, on Pope Island Beach, about 9¾ miles northeasterly from "Assateague Light." (See Chart No. 15.)

Immediate locality.—Observed station is on the main building of the Pope Island Life-Saving Station, which is a gable roofed 1½-story wooden structure with a square lookout cupola. Pointed cap piece of cupola supports a weather vane in the form of a fish.

Marks.—Observed station is center of weather-vane spindle.

References.—None necessary.

WILDCAT (VIRGINIA).

General locality.—Northerly end of Chincoteague Island, on westerly side of Assateague Bay. (See Chart No. 15.)

Immediate locality.—Observed station is on marsh land, about ½ mile south of upper end of island, known locally as Wildcat Point. It is inshore about 100 yards northwest of mouth of small marsh drain emptying into Assateague Bay. The marsh creek or drain makes a decided turn about 12 yards south of station.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Assateague Light" (S 26° 06′ W)	0	00	00	------	5¼ miles.
Right tangent of woods	29	48	--	------	1 mile.
"Killick Shoal Light"	30	37	40	------	4¼ miles
First cedar	44	52	--	------	1½ miles.
Clump of cedars	66	--	--	------	1¼ miles.
A marshy island	100	--	--	------	1¼ miles.
Right tangent of marshy island	130	14	--	------	1¼ miles.
Left tangent of Ragged Point	172	08	--	------	1 mile.
Shanty on Ragged Point	176	42	--	------	1 mile.
First tree on Ragged Point	209	11	--	------	1 mile.
Second tree on Ragged Point	210	41	--	------	1 mile.
Sand dune	259	--	--	------	1 mile.
Smith Hammock sand dune	323	--	--	------	1¼ miles.
Middle of boathouse on beach	335	52	--	------	3 miles.
A marsh tump	340	--	--	------	¾ mile.

ASSATEAGUE LIGHT (VIRGINIA).

General locality.—Southerly part of Assateague Island, seacoast of Virginia, about 2½ miles from its southwesterly point. (See progress map.)

Immediate locality.—Red tower, 154 feet above sea level and 129 feet above its own base, known as Assateague Light-House.

Marks.—Observed station is center of black lantern.

References.—None necessary.

KILLICK SHOAL LIGHT (VIRGINIA).

General locality.—Southerly end of Chincoteague Bay, on Killick Shoals, off entrance of Chincoteague Channel. (See progress map.)

Immediate locality.—Screw pile structure known as Killick Shoal Light-House.

Marks.—Observed station is center of black lantern.

References.—None necessary.

CHESTER (VIRGINIA).

General locality.—Southern and western shores of Chincoteague Bay, about ½ mile south of shore of bay and ¼ mile east of solid land known locally as Mosquito Point Farm. (See progress map.)

Immediate locality.—Observed station is on a mound of dry land surrounded by marsh, known locally as Fox Hill. It is on the highest point and near the apex of the mound, which is V-shaped and about 15 feet above high water at the station. The mound gradually falls off to the level of the marsh from the station to the ends of the V, which are both about 150 yards distant, and at the extreme apex, which is about 25 yards to the north. Reference station is 5.82 meters N 80° 51′ W of the observed station.

Marks.—Observed station is center of tile pipe surrounded by cement with top flush with ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Assateague Light" (S 59° 59′ E)	0	00	00		5¼ miles.
Tower on Wallops Beach Life-Saving Station	60	44	--		5½ miles.
Cupola of barn	135	53	--		¾ mile.
REFERENCE STATION	150	08	10		5.82 meters.
"Grace M. E. Church"	274	27	--		5¼ miles.
"Killick Shoal Light"	333	30	--		3½ miles.
West spire of Union Baptist Church at Chincoteague	348	15	--		4 miles.

LONG POINT (VIRGINIA).

General locality.—Western shore of lower Chincoteague Bay, near Long Point, about ½ mile east of Franklin City. (See Chart No. 15.)

Immediate locality.—Observed station is on marsh land about 40 yards from end of point of mainland, 30 yards southwest of shore and 20 yards north of shore. A small marsh island is located about 200 yards east of the station, which was once a part of the mainland and known as Long Point. Reference station is 11.81 meters N 42° 37′ W of the observed station.

Marks.—Observed station is center of tile pipe set in cement with top flush with the ground. Reference station is center point of triangle on standard cement monument.

References.—	°	′	″		
"Mill" (N 38° 07′ E)	0	00	00		4 miles.
"Assateague Light"	133	26	15		6¾ miles.
"Killick Shoal Light"	144	32	25		4¼ miles.
End of wharf at Franklin City	222	33	--		½ mile.
M. P. Church	252	32	30		1 mile.
Grace M. E. Church (tall spire)	259	07	30		¾ mile.
Grace M. E. Church (short spire)	259	38	35		¾ mile.
REFERENCE STATION	279	16	00		11.81 meters.

GRACE M. E. CHURCH (VIRGINIA).

General locality.—Western shore of lower Chincoteague Bay, about ¼ mile northwest of railway wharf at Franklin City. (See Chart No. 15.)

Immediate locality.—Observed station is the taller of two towers on church known as Grace M. E. Church.

Marks.—Observed station is center of pointed tower or spire.

References.—None necessary.

MONEY (VIRGINIA).

General locality.—Western shore of lower Chincoteague Bay, about 1 mile west-northwest of Long Point, on northern edge of town of Greenbackville, and just south of Maryland-Virginia boundary. (See Chart No. 15.)

Immediate locality.—Observed station is about 70 yards northeast of railway on a sandy rise of ground about 15 feet above level of track. It is about 25 yards south of the Maryland-Virginia boundary and 30.43 meters S 38° 28′ E of broken stone boundary monument. At the station, "Assateague Light" shows almost tangent to third house north of Grace M. E. Church.

Marks.—Observed station is center point of triangle on standard cement monument buried with top 30 inches below surface of ground

References.—

	°	′	″		
"Grace M. E. Church" (S 21° 23′ E)	0	00	00	------	250 yards.
"Assateague Light"	7	46	49	------	7¼ miles.
M. P. Church	65	46	20	------	¼ mile.
Center chimney on square house	117	11	--	------	100 yards.
"Maryland-Virginia Railroad)" (boundary stone)	162	55	26	------	30.43 meters.
"Long Point"	324	45	43	------	1 mile.
Left chimney of two close together	330	48	--	------	150 yards.
Small tower Greenbackville Church	359	00	30	------	250 yards.

MARYLAND–VIRGINIA (RAILROAD).

General locality.—Western shore of lower Chincoteague Bay, inland about 1 mile west-northwest of Long Point, on boundary line between Maryland and Virginia. (See Chart No. 15.)

Immediate locality.—Observed station is about 80 yards northeast of railroad on a sandy rise of ground about 15 feet above level of track. It is on the edge of an excavation in this sand hill and is likely to be undermined any time by the carting away of sand for building purposes. The standard cement monument marking triangulation station "Money" is buried with its top 30 inches below surface of ground 30.43 meters S 38° 28′ E true from station.

Marks.—Observed station is the center of a square-top granite monument projecting 18 inches above ground which marks the boundary between Maryland and Virginia. Top of monument when visited in December, 1907, was broken loose and resting on the undisturbed part of the stone buried in the ground. This top was cut in a square 6 by 6 inches with an east-and-west line from side to side and the letters "M" and "V" to indicate the Maryland and Virginia side of the boundary, respectively

References.—None observed.

MILL.

General locality.—Western shore of Chincoteague Bay, on the northern part of Mill Island. (See Chart No. 15.)

Immediate locality.—Observed station is the highest point of the island, on a hill about 20 feet above high water which is located about ½ mile southwest of the upper end of the island. It is about 40 yards east by south of an abandoned house and sheds and about ¼ mile north of another abandoned house.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Assateague Light" (S 8° 59′ W)	0	00	00	------	10 miles
Right tangent of Chincoteague Island	11	54	--	------	10 miles.
Knoll on this island	15	--	--	------	¾ mile.
Tree (8 inches diameter)	21	46	--	------	40 yards.
Tree (8 inches diameter)	42	20	--	------	70 yards.
Tree (18 inches diameter)	54	27	--	------	39.30 meters.
Near corner of old house	62	43	40	------	36.88 meters.
Next corner of old house	70	28	--	------	37.64 meters.
Cupola on large house	138	25	--	------	1½ miles.
Chimneys on white house	139	11	--	------	2 miles.
Near end of large barn	186	47	--	------	4½ miles.
"Landlet" and right of trees at Purnell Hammock	195	10	--	------	3¾ miles.
Dead tree and 2 cedars	213	52	--	------	¼ mile.

	°	′	″		
Right tangent of Assacorkin Island	235	34	--	------	¾ mile.
Left of "Green Run" woods	238	40	--	------	6¾ miles.
"Pope Island Life-Saving Station"	286	05	--	------	4¾ miles.
Left tangent of first building on Ragged Point	323	39	--	------	4½ miles.
Left tangent of Chincoteague Island	341	06	--	------	5 miles.
Chimney of old house	349	27	--	------	¼ mile.

TIZZ.

General locality.—Western side of Chincoteague Bay on Tizzard Island. (See Chart No. 15.)

Immediate locality.—Observed station is on the highest point on the island, about 15 feet above high water, about ¼ mile from extreme southeastern point of island, and about 75 yards north of shore line of island.

Marks.—Observed station is center point of triangle on standard cement monument.

References.—

	°	′	″		
"Assateague Light" (S 6° 35′ W)	0	00	00	------	12 miles.
Right of woods at Chincoteague	10	38	--	------	15 miles
Smoke pipe of shanty	18	52	--	------	3 miles.
Chimney on first house at Stockton	23	27	--	------	3¼ miles.
Church steeple at Franklin City	28	23	--	------	5¼ miles.
Church steeple, Greenbackville	30	02	30	------	5½ miles.
Two chimneys on gambrel roof	40	--	--	------	1¾ miles.
Near chimney of white house	101	25	--	------	2¼ miles.
Near chimney of another white house	106	53	--	------	2¼ miles.
Chimney on large unpainted barn	113	07	--	------	2 miles.
Two chimneys on large house	119	19	--	------	3 miles.
Chimney of yellow building	165	59	--	------	4 miles.
Large white barn	199	58	--	------	4 miles.
Purnell Hammock	213	--	--	------	3¼ miles.
Green Run Inlet Life-Saving Station flagstaff	256	55	20	------	7⅛ miles.
"Pope Island Life-Saving Station"	299	34	50	------	5¾ miles.
Left tangent Assacorkin Island	316	14	--	------	1⅛ miles.
Left tangent of Mill Island	325	17	--	------	1⅛ miles.
Left of woods at Chincoteague	350	52	--	------	12 miles.

BOUNDARIES OF OYSTER BARS.

EXPLANATION.

The law of the United States authorizing the cooperation of the Department of Commerce and Labor in the survey of natural oyster bars of Maryland provides for the designation and employment by the Department of Commerce and Labor of such officers, experts, and other technically qualified persons "as may be necessary to cooperate with the Maryland State Board of Shell Fish Commissioners in making a survey of and locating the natural oyster beds, bars, and rocks in the waters within the State of Maryland." The oyster laws of Maryland provide that the Maryland Shell Fish Commissioners, with the aid of such persons as may be designated by the Government, shall proceed "to have laid out, surveyed, and designated on the said charts the natural beds and bars, and shall cause to be marked and defined as accurately as practicable the limits and boundaries of the natural beds, bars, and rocks as established by said survey, and they shall take true and accurate notes of said survey in writing, and make an accurate report of said survey, setting forth such a description of landmarks as may be necessary to enable the said board, or their successors, to find and ascertain the boundary lines of the said natural oyster beds, bars, and rocks, as shown by a delineation on the maps and charts." The oyster laws of Maryland also provide in another section that there shall "be made a true and accurate survey of the natural oyster beds, bars, and rocks * * * with reference to fixed and permanent objects on the shore, giving courses and distances, to be fully described and set out in a written report of said survey."

Under the provisions of the laws quoted above the State of Maryland, in cooperation with the Department of Commerce and Labor, must define the boundaries of the natural oyster bars "as accurately as practicable" and also "with reference to fixed and permanent objects on the shore, giving courses and distances." The requirement of "as accurately as practicable" is easily fulfilled by definition of the location of the corners of the oyster bars by latitude and longitude. In fact, this method is probably the most satisfactory and accurate one that could be used for all purposes of legal definition or for relocation of the oyster-bar boundaries by competent engineers. Therefore the additional requirement of "giving courses and distances" is superfluous and is only fulfilled in the published definitions on account of the specific provisions of the law making it compulsory. This part of the description of boundaries has involved an immense amount of extra computations in order to prevent technical discrepancies between the latitude and longitude of a corner of an oyster bar and its distance and bearing from objects on shore of known latitude and longitude without adding anything to the accuracy and very little to the convenience of practical use of the descriptions of the oyster-bar boundaries.

As provided by law the boundaries of the oyster bars are all straight lines, but in the work already completed they have inclosed areas of all shapes from triangles to complicated 14-sided figures, and of all sizes from 4 acres to 7,548 acres. The sides

have varied in length from 93 to 7,529 yards, and in some cases the corners of the boundaries have been practically at the triangulation stations from which they are located, while in other instances they were over 13,600 yards from the landmarks most available for the purpose of fixing their position.

The varied characteristics of the legal boundaries of the oyster bars indicated by the above statement, together with the complicated requirements of the law under which the survey has been made and the magnitude of the work with the consequent need of fixed and uniform methods, have made the problem of describing the boundaries one of considerable difficulty and great importance.

The boundaries of the oyster bars of Maryland, as established by the Shell Fish Commission and delineated on the Coast and Geodetic Survey charts and projections and on the leasing charts of the Commission, are technically defined and described by a method somewhat different from that used in other oyster surveys. But it is believed that the forms finally adopted will fulfill all needs of the survey for both the present and future.

METHOD OF DESCRIBING BOUNDARIES.

The descriptions have been arranged in tabular form, thus avoiding many hundred repetitions of the same words by making one explanation of the tables sufficient for all oyster bars in each county.

Title.—At the top of each tabular form is given the legal name of the oyster bar to be described, and the one by which it is known and designated in the published oyster records and on the oyster charts. The adopted name of the oyster bar is the one used locally, as nearly as could be ascertained by the hydrographic engineer of the Commission; and when there was no local name in common use a name was selected from one of the prominent features of the vicinity that would naturally suggest the section of the waters where the oyster bar was located.

Underneath the name, in parentheses, is given the general locality of the oyster bar and the serial number of the "Maryland Oyster Chart" on which its legal boundaries are shown.[a]

First column.—This column, under the heading of "Corner of bar," gives the number corresponding to the corner of the boundary as shown on the charts and to the number on the buoy marking the actual corner of the bar. The numbers of the corners have been assigned by naming the southernmost point No. 1, thence proceeding in a clockwise direction around the bar; but where a corner of one oyster bar is identical with the corner of the boundaries of one or more other oyster bars only the number of the corner of the oyster bar being described in the table is given in this column.

Second and third columns.—These two columns, under the headings of "Latitude" and "Longitude," give the geographic positions of the corners. These positions have been adopted by the Commission as the primary technical definition of the location of the corners, and should be considered as final in case of a dispute arising from discrepancies caused by other means of location. The latitudes and longitudes given in these columns are based on the United States standard datum of the Coast and Geodetic Survey, and the points thus defined can be relocated from distant triangulation stations

[a] These charts can be obtained by application to the Superintendent of the Coast and Geodetic Survey at Washington, D. C.

of the Survey, even though all the landmarks and buoys originally used for their location have been destroyed by natural or other causes.

Fourth and fifth columns.—These two columns, under the general heading of "True bearing"[a] and the specific headings "Forward" and "Back," give bearings measured from a true north-and-south line. The three "Forward" bearings are from the corner of the boundary designated in the first column to the triangulation stations named on the corresponding lines in the last column, and the three "Back" bearings are from these same stations in the last column to the corresponding corner of boundary in the first column. The difference in minutes of arc between the forward and back bearings shown in some cases is actual and not accidental, and is due to the fact that the computations took into account the spheroidal shape of the earth.

Sixth column.—This column, under the heading of "Distance," gives the three computed distances in yards from the corner of the bar noted in the first column to the three triangulation stations named on the corresponding lines in the last column, and vice versa.

Seventh column.—This column, under the heading of "U. S. C. & G. S. triangulation station,"[b] gives the names of the landmarks from which were computed the corresponding "Latitude," "Longitude," "True bearing," and "Distance" of the "Corner of the bar" designated in the first column. A full description of the location and markings of these triangulation stations is given in another part of this publication under the heading of "Descriptions of triangulation stations."

SURVEYING METHODS FOR RELOCATION OF BOUNDARIES.

There are a number of methods that can be used in the relocation of the actual boundaries of the natural oyster bars as technically described in this publication and delineated on the published charts of the Coast and Geodetic Survey and the leasing charts of the Shell Fish Commission.

The following brief descriptions of five of these more or less different methods assume a certain amount of experience and knowledge on the part of the engineer in the particular kind of surveying under consideration, and are only intended as reminders of ways and means that can be used.

There are two problems that are likely to present themselves to those interested in the boundaries of natural oyster bars: One, to determine whether the buoys marking the corners have been dragged or otherwise moved from their correct positions, and the other, to relocate or reestablish a buoy at the point from which it was removed. The different ways of solving these two problems partly depend upon the instruments possessed by the engineer and his assistants and partly on his training and experience.

(1) *Triangulation.*—This method is the one that will give the greatest accuracy, but on account of its requiring special data and instruments, and being an operation rarely used by engineers not engaged in geodetic surveying, it is recommended only for cases in dispute that can not be settled satisfactorily by some other method. An explanation of this class of work would be too long for a report of this sort, and those

[a] The mean magnetic variation for Worcester County was 5° 55′ west of north in 1909 and increasing at the rate of 3½′ yearly.

[b] Geographic positions of these triangulation stations can be obtained by application to the Superintendent of the Coast and Geodetic Survey, Washington, D. C.

not familiar with this method are referred to the publications on the subject by the Coast and Geodetic Survey.

(2) *Hydrographic.*—This method is the most simple and satisfactory one that can be adopted if the surveyor can obtain the use of the necessary instruments and assistants. It is the one best suited for the work of the engineers of the Commission in relocating corners of boundaries, as it gives results of the accuracy ordinarily required and is rapid in execution. Besides, it has the advantage of being available whenever three triangulation stations of suitable relative positions are visible from the offshore points needing relocation.

Most navigators and others familiar with the use of a sextant are well acquainted with the graphic three-point method of fixing a position on water, and only a brief description of the operation will be stated.

In the case where there is only one engineer having a single sextant, the three-point method can be used if the two angles determining the position of a buoy are first derived from the "Forward" bearings given in the tabular forms describing the boundaries of the oyster bars. For example, take "South Point" bar, which is the first one described in this publication, and assume that "Corner No. 3," is to be examined as to its position. The angle between the two landmarks "Birch" and "Neck" as determined from right to left from the forward bearings from this corner is 59° 11′ and the angle between "Neck" and "Newport" is 49° 44′. Having these two angles, the engineer proceeds to the buoy of doubtful location and measures the actual sextant angles between the landmarks for which the calculations were made. If the measured and calculated angles do not agree the buoy is not in its correct position and the boundary corner must be relocated. This is accomplished by moving the boat about until a point is reached where the angles do agree, and this point being the desired location, the buoy can be placed in its correct position.

If the engineer can obtain the use of both a sextant and a three-arm protractor ("position finder"), the availability of the hydrographic method is increased, as the use of the protractor is essential in case of the washing away or destruction of one or more of the landmarks originally used in describing the boundaries. Under these circumstances, any three landmarks of suitable relative position that are visible from the point to be located can be utilized. For example, the engineer can proceed to the buoy of doubtful position and measure the two adjacent sextant angles between the three landmarks selected. These two angles are set off on the three-arm protractor and the actual position of the buoy plotted on the chart by shifting the protractor about until the edge of each of the three arms passes through the center of the symbols on the chart marking the position of the three landmarks selected. The center of the hub of the protractor will indicate on the chart the actual position of the buoy, and if the point thus obtained does not coincide with the true position of the corner of the boundary as given on the chart, the surveyor can proceed to locate the buoy correctly by reversing the operation. This is done by placing the center point of the hub of the protractor over the corner of the boundary in question and measuring on the chart the two adjacent protractor angles between the three selected landmarks. One of the angles thus obtained is set on the sextant and the boat moved about until the two landmarks are shown by the sextant to subtend the same angle obtained from the

protractor. The second angle is then placed on the sextant and the same operation gone through, and so on, first using one angle on the sextant then the other until a point is reached where both observed sextant angles are practically identical with the protractor angles. The point thus located is the desired one and the buoy can be placed to mark the true position of the corner of the boundary in question.

If the engineer possesses two sextants and a protractor, this problem is far easier of solution, as the two angles can be set off on separate sextants and the observer can quickly find the desired point where they agree with the protractor angles by using one sextant after the other without the need of resetting either.

If there are two observers, two sextants, and a protractor, it can be seen that the best conditions for both rapid and accurate hydrographic locations of points are attained; in fact, this is the method by which the buoys at the corners of the boundaries were originally placed by the hydrographic engineer to the Commission.

(3) *Magnetic bearings from offshore.*—This method of fixing a position on water is a simple and well-known one in navigation. It is available to anyone having a boat compass and will be of special use to the State fishery force in investigating cases where buoys are supposed to have been moved for illegal purposes.

In the case where a buoy is supposed to have been moved from its true position the observer takes compass bearings to the three landmarks given in the last column of the tables opposite the boundary corner in question. These bearings are then corrected for the local declination,[a] and if the results agree with the published bearings the buoy is correctly located.

In the case where the buoy is not in its correct position, or has disappeared altogether, the desired point can be determined by maneuvering the vessel until the corrected bearings agree with the ones in the tabular descriptions, when the buoy can be anchored in its proper location.

In the case where the landmarks for which the bearings are published have been destroyed or washed away, any landmarks whose positions are indicated on the charts can be used by getting their bearings directly from the chart by parallel rulers or a protractor and then applying them in the same manner as the ones published in the tables.

(4) *Magnetic bearings from shore.*—This method will be of special value to engineers having an ordinary surveyor's compass. The compass can be set over the point marking a "triangulation station" on shore, the name of which is given in the last column opposite the "corner" in question. The instrument is then set at the corresponding "back" bearing (corrected for local magnetic declination) given in the fourth column of the tables opposite the "corner" in question, and the direction thus determined will give one range on which the desired point must be located. The compass can then be moved to a second triangulation station and another range located in a similar manner. The intersection of these two range lines will give the desired point; but in general it should be checked by an additional range line determined from a third station.

(5) *Horizontal angles measured at landmarks.*—This process is a modification of the triangulation method, and will be useful to engineers who have a transit and desire considerable accuracy.

[a] The mean magnetic variation for Worcester County is 5° 55′ west of north in 1909 and increasing at the rate of 3½′ yearly.

The instrument is placed over a "triangulation station," the name of which appears in the last column of the tabular description opposite the "corner" in question. The telescope is then pointed to the landmark indicated in the "Descriptions of landmarks" as having a direction of 0° 00′ 00″ from the triangulation station being occupied by the transit. The tabular description of the boundaries is next examined and the "back" bearing of the questionable boundary "corner" from the landmark being occupied is taken out. The angle calculated from this "back" bearing and the bearing given in parentheses alongside the zero landmark in the "Descriptions of landmarks" is then set off on the transit, and a range line established on which the desired point must be located. A similar process is then carried on at a second station, and so on until the position of the buoy is satisfactorily fixed.

BOUNDARIES OF NATURAL OYSTER BARS.

SOUTH POINT.

(*Newport Bay—Charts Nos. 13 and 14.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 12 03.48	75 13 05.54	N 53 17 E	S 53 18 W	2683	Birch.
			N 19 15 E	S 19 16 W	4408	Neck.
			N 71 48 W	S 71 49 E	3082	Handys Hammock.
2	38 12 26.10	75 13 18.36	N 71 22 E	S 71 23 W	2628	Birch.
			N 27 50 E	S 27 50 W	3844	Neck.
			N 85 34 W	S 85 35 E	2595	Handys Hammock.
3	38 12 48.39	75 13 04.82	N 87 38 E	S 87 38 W	2133	Birch.
			N 28 27 E	S 28 27 W	3011	Neck.
			N 21 17 W	S 21 18 E	3024	Newport.
4	38 12 34.39	75 12 47.18	N 71 22 E	S 71 23 W	1753	Birch.
			N 17 12 E	S 17 12 W	3265	Neck.
			N 25 28 W	S 25 29 E	3644	Newport.

HANDYS HAMMOCK.

(*Newport Bay—Charts Nos. 13 and 14.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 12 06.72	75 14 10.98	N 69 00 E	S 69 01 W	4168	Birch.
			N 8 54 E	S 8 55 W	4275	Newport.
			N 54 17 W	S 54 17 E	1462	Handys Hammock.
2	38 12 08.22	75 14 20.24	N 70 45 E	S 70 47 W	4381	Birch.
			N 12 17 E	S 12 17 W	4270	Newport.
			N 49 31 W	S 49 31 E	1236	Handys Hammock.
3	38 12 23.50	75 14 26.40	N 77 49 E	S 77 51 W	4400	Birch.
			N 16 20 E	S 16 21 W	3811	Newport.
			N 69 41 W	S 69 41 E	828	Handys Hammock.
4	38 12 23.64	75 14 13.18	N 76 48 E	S 76 50 W	4046	Birch.
			N 11 09 E	S 11 10 W	3723	Newport.
			N 75 56 W	S 75 56 E	1164	Handys Hammock.

NEWPORT.

(Newport Bay—Charts Nos. 13 and 14.)

Corner of bar	Latitude	Longitude	True bearing: Forward	True bearing: Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 11 48.98	75 13 32.00	N 53 46 E	S 53 47 W	3538	Birch.
			N 4 27 W	S 4 27 E	4836	Newport.
			N 56 52 W	S 56 53 E	2656	Handys Hammock.
2	38 11 50.08	75 13 52.90	N 58 55 E	S 58 57 W	3981	Birch.
			N 2 10 E	S 2 10 W	4788	Newport.
			N 49 42 W	S 49 43 E	2187	Handys Hammock.
3	38 12 06.38	75 13 44.00	N 64 37 E	S 64 38 W	3512	Birch.
			N 0 45 W	S 0 45 E	4234	Newport.
			N 65 34 W	S 65 35 E	2092	Handys Hammock.
4	38 12 11.78	75 13 23.40	N 63 15 E	S 63 16 W	2938	Birch.
			N 8 28 W	S 8 29 E	4097	Newport.
			N 74 26 W	S 74 27 E	2546	Handys Hammock.

LAMBERTSON LANDING.

(Upper Chincoteague Bay—Chart No. 14.)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 11 19.54	75 14 54.94	N 58 38 E	S 58 40 W	5926	Birch.
			N 80 24 W	S 80 24 E	2445	Handys Hammock.
			S 26 23 W	N 26 22 E	3350	Ricks.
2	38 11 48.19	75 15 08.00	S 16 02 W	N 16 02 E	4127	Ricks.
			N 68 36 E	S 68 38 W	5808	Birch.
			N 12 35 E	S 12 36 W	1515	Handys Hammock.
3	38 11 58.98	75 14 53.63	S 19 28 W	N 19 28 E	4593	Ricks.
			N 70 44 E	S 70 46 W	5324	Birch.
			N 2 41 W	S 2 41 E	1115	Handys Hammock.
4	38 11 46.83	75 14 34.34	N 64 22 E	S 64 24 W	5004	Birch.
			N 20 21 W	S 20 21 E	1625	Handys Hammock.
			S 27 27 W	N 27 26 E	4418	Ricks.
5	38 11 38.04	75 14 41.03	N 62 18 E	S 62 20 W	5296	Birch.
			N 12 01 W	S 12 01 E	1861	Handys Hammock.
			S 27 09 W	N 27 08 E	4073	Ricks.

ENNIS.

(Upper Chincoteague Bay—Chart No. 14.)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 11 13.38	75 14 17.68	N 51 01 E	S 51 03 W	5234	Birch.
			N 20 49 W	S 20 50 E	2837	Handys Hammock.
			S 41 37 W	N 41 36 E	3735	Ricks.
2	38 11 38.04	75 14 41.03	N 62 18 E	S 62 20 W	5296	Birch.
			N 12 01 W	S 12 01 E	1861	Handys Hammock.
			S 27 09 W	N 27 08 E	4073	Ricks.

ENNIS—Continued.

(*Upper Chincoteague Bay—Chart No. 14*)—Continued.

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
3	38 11 46.83	75 14 34.34	N 64 22 E	S 64 24 W	5004	Birch.
			N 20 21 W	S 20 21 E	1625	Handys Hammock.
			S 27 27 W	N 27 26 E	4418	Ricks.
4	38 11 24.96	75 13 59.52	N 51 01 E	S 51 02 W	4613	Birch.
			N 33 25 W	S 33 25 E	2709	Handys Hammock.
			S 42 57 W	N 42 56 E	4349	Ricks.

TURPIN.

(*Upper Chincoteague Bay—Chart No. 14.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 10 21.84	75 14 43.82	N 43 26 E	S 43 28 W	6929	Birch.
			N 4 05 W	S 4 05 E	4401	Handys Hammock
			S 59 25 W	N 59 24 E	2072	Ricks.
2	38 10 34.30	75 14 45.38	N 46 11 E	S 46 13 W	6660	Birch.
			N 3 55 W	S 3 55 E	3978	Handys Hammock.
			S 49 46 W	N 49 45 E	2283	Ricks.
3	38 10 26.78	75 14 27.84	N 41 44 E	S 41 46 W	6518	Birch.
			N 9 57 W	S 9 57 E	4288	Handys Hammock.
			S 61 04 W	N 61 03 E	2525	Ricks.

SANDY POINT.

(*Upper Chincoteague Bay—Chart No. 14.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 09 51.26	75 14 32.04	N 6 36 W	S 6 36 E	5457	Handys Hammock.
			S 89 11 W	N 89 10 E	2099	Ricks.
			S 46 14 E	N 46 13 W	4828	Beacon Clumps.
2	38 09 56.78	75 14 40.00	N 4 32 W	S 4 32 E	5251	Handys Hammock.
			S 83 39 W	N 83 39 E	1897	Ricks.
			S 46 26 E	N 46 24 W	5105	Beacon Clumps.
3	38 10 08.48	75 14 36.78	N 5 54 W	S 5 54 E	4867	Handys Hammock.
			S 72 58 W	N 72 57 E	2063	Ricks.
			S 42 43 E	N 42 42 W	5325	Beacon Clumps.
4	38 10 05.78	75 14 22.98	N 9 59 W	S 9 59 E	5008	Handys Hammock.
			S 77 38 W	N 77 37 E	2395	Ricks.
			S 40 20 E	N 40 22 W	5014	Beacon Clumps.

ROBINS MARSH.

(*Upper Chincoteague Bay—Chart No. 14.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 09 06.48	75 15 35.79	N 15 05 W	S 15 06 E	1539	Ricks.
			S 83 42 W	N 83 41 E	2630	Guilberts Cupola.
			S 35 48 W	N 35 46 E	5328	Landlet.
2	38 09 22.32	75 15 53.78	N 4 42 E	S 4 42 W	955	Ricks.
			S 68 56 W	N 68 55 E	2287	Guilberts Cupola.
			S 28 35 W	N 28 34 E	5536	Landlet.
3	38 09 35.39	75 15 42.96	N 22 19 W	S 22 19 E	552	Ricks.
			S 62 28 W	N 62 27 E	2733	Guilberts Cupola.
			S 62 31 E	N 62 29 W	6060	Beacon Clumps.
4	38 09 40.61	75 14 49.94	N 78 19 W	S 78 20 E	1656	Ricks.
			S 69 26 W	N 69 25 E	4096	Guilberts Cupola.
			S 53 08 E	N 53 06 W	4955	Beacon Clumps.
5	38 09 29.59	75 14 46.23	N 67 39 W	S 67 40 E	1860	Ricks.
			S 74 50 W	N 74 48 E	4076	Guilberts Cupola.
			S 56 03 E	N 56 02 W	4659	Beacon Clumps.
6	38 09 27.20	75 15 03.23	N 58 09 W	S 58 10 E	1493	Ricks.
			S 74 11 W	N 74 09 E	3619	Guilberts Cupola.
			S 59 43 E	N 59 41 W	5000	Beacon Clumps.
7	38 09 14.54	75 15 08.41	N 42 56 W	S 42 56 E	1658	Ricks.
			S 80 30 W	N 80 28 E	3390	Guilberts Cupola.
			S 64 50 E	N 64 48 W	4923	Beacon Clumps.

SCARBORO CREEK.

(*Upper Chincoteague Bay—Chart No. 14.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 08 40.78	75 16 00.00	N 5 55 E	S 5 55 W	2365	Ricks.
			N 73 38 W	S 73 37 E	2053	Guilberts Cupola.
			S 35 34 W	N 35 33 E	4249	Landlet.
2	38 09 04.47	75 16 08.42	N 16 46 E	S 16 46 W	1623	Ricks.
			S 82 48 W	N 82 49 E	1760	Guilberts Cupola.
			S 27 50 W	N 27 50 E	4812	Landlet.
3	38 09 22.32	75 15 53.78	N 4 42 E	S 4 42 W	955	Ricks.
			S 68 56 W	N 68 55 E	2287	Guilberts Cupola.
			S 28 35 W	N 28 34 E	5536	Landlet.
4	38 09 06.48	75 15 35.79	N 15 05 W	S 15 06 E	1539	Ricks.
			S 83 42 W	N 83 41 E	2630	Guilberts Cupola.
			S 35 48 W	N 35 46 E	5328	Landlet.

SOUTHWEST.

(*Upper Chincoteague Bay—Chart No. 14.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 08 32.04	75 15 26.63	N 13 41 W	S 13 41 E	2724	Ricks.
			N 73 01 W	S 73 02 E	2988	Guilberts Cupola.
			S 46 45 W	N 46 44 E	4613	Landlet.
2	38 08 32.11	75 15 38.94	N 6 50 W	S 6 50 E	2664	Ricks.
			N 71 01 W	S 71 02 E	2676	Guilberts Cupola.
			S 43 47 W	N 43 46 E	4382	Landlet.
3	38 08 47.04	75 15 30.98	N 13 52 W	S 13 52 E	2206	Ricks.
			N 82 22 W	S 82 23 E	2767	Guilberts Cupola.
			S 41 26 W	N 41 25 E	4902	Landlet.

PURNELL HAMMOCK.

(*Middle Chincoteague Bay—Chart No. 14.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 06 06.82	75 16 59.60	S 77 09 E	N 77 07 W	5797	Turnagain.
			N 26 59 W	S 27 00 E	1947	Landlet.
			S 53 51 W	N 53 49 E	5879	Tizz.
2	38 06 11.34	75 17 15.40	S 76 39 E	N 76 37 W	6242	Turnagain.
			N 16 18 W	S 16 18 E	1649	Landlet.
			S 50 04 W	N 50 02 E	5641	Tizz.
3	38 06 15.60	75 17 13.42	S 75 15 E	N 75 13 W	6226	Turnagain.
			N 19 40 W	S 19 40 E	1528	Landlet.
			S 49 19 W	N 49 17 E	5774	Tizz.

BEEF CREEK.

(*Middle Chincoteague Bay—Charts Nos. 14 and 15.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 05 51.48	75 17 52.41	N 13 05 E	S 13 05 W	2312	Landlet.
			S 48 32 W	N 48 31 E	4455	Tizz.
			S 28 23 W	N 28 23 E	6045	Mill.
2	38 05 54.26	75 17 54.88	N 15 16 E	S 15 16 W	2238	Landlet.
			S 47 04 W	N 47 02 E	4471	Tizz.
			S 27 26 W	N 27 25 E	6098	Mill.
3	38 05 56.94	75 17 42.48	N 7 08 E	S 7 08 W	2084	Landlet.
			S 48 58 W	N 48 57 E	4777	Tizz.
			S 29 42 W	N 29 41 E	6334	Mill.
4	38 05 52.72	75 17 44.78	N 8 14 E	S 8 14 W	2233	Landlet.
			S 49 48 W	N 49 47 E	4638	Tizz.
			S 29 52 W	N 29 51 E	6180	Mill.
5	38 05 53.78	75 17 48.02	N 10 35 E	S 10 35 W	2212	Landlet.
			S 48 46 W	N 48 45 E	4595	Tizz.
			S 29 00 W	N 28 59 E	6169	Mill.

RATTLESNAKE.

(*Middle Chincoteague Bay—Charts Nos. 14 and 15.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 05 38.00	75 18 03.18	N 16 40 E	S 16 40 W	2826	Landlet.
			S 50 43 W	N 50 41 E	3944	Tizz.
			S 28 01 W	N 28 00 E	5510	Mill.
2	38 05 43.19	75 18 26.62	N 29 32 E	S 29 33 W	2910	Landlet.
			S 42 15 W	N 42 14 E	3610	Tizz.
			S 21 17 W	N 21 16 E	5409	Mill.
3	38 05 44.86	75 18 26.26	N 29 56 E	S 29 56 W	2856	Landlet.
			S 41 46 W	N 41 45 E	3658	Tizz.
			S 21 09 W	N 21 09 E	5354	Mill.
4	38 05 45.06	75 18 05.24	N 19 19 E	S 19 19 W	2616	Landlet.
			S 47 37 W	N 47 35 E	4057	Tizz.
			S 26 24 W	N 26 23 E	5695	Mill.

MARTIN POINT.

(*Middle Chincoteague Bay—Charts Nos. 14 and 15.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 05 14.44	75 17 53.44	N 8 56 E	S 8 56 W	3544	Landlet.
			S 62 47 W	N 62 46 E	3724	Tizz.
			S 34 59 W	N 34 58 E	4966	Mill.
2	38 05 37.54	75 17 56.64	N 13 09 E	S 13 09 W	2795	Landlet
			S 52 26 W	N 52 25 E	4070	Tizz.
			S 29 37 W	N 29 36 E	5576	Mill.
3	38 05 41.75	75 17 47.56	N 8 41 E	S 8 41 W	2601	Landlet.
			S 52 54 W	N 52 52 E	4348	Tizz.
			S 30 59 W	N 30 58 E	5834	Mill.
4	38 05 25.42	75 17 34.24	N 0 43 E	S 0 43 W	3132	Landlet.
			S 61 32 W	N 61 31 E	4349	Tizz.
			S 37 07 W	N 37 05 E	5568	Mill.

DIAMOND.

(*Middle Chincoteague Bay—Charts Nos. 14 and 15.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 05 35.23	75 16 45.20	S 87 34 E	N 87 32 W	5273	Turnagain.
			N 24 21 W	S 24 21 E	3071	Landlet.
			S 64 54 W	N 64 52 E	5665	Tizz.
2	38 05 47.16	75 16 57.82	S 83 38 E	N 83 36 W	5640	Turnagain.
			N 21 13 W	S 21 14 E	2572	Landlet.
			S 59 40 W	N 59 38 E	5554	Tizz.
3	38 05 42.50	75 16 40.28	S 84 47 E	N 84 45 W	5159	Turnagain.
			N 28 41 W	S 28 42 E	2912	Landlet.
			S 63 17 W	N 63 15 E	5890	Tizz.

SHEEP.

(*Middle Chincoteague Bay—Chart No. 15.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 04 03.59	75 19 09.02	N 23 31 E	S 23 32 W	6425	Landlet.
			N 62 08 W	S 62 09 E	1466	Tizz.
			S 26 20 W	N 26 20 E	1876	Mill.
2	38 04 19.44	75 19 20.58	N 28 12 E	S 28 13 W	6077	Landlet.
			N 81 19 W	S 81 19 E	1000	Tizz.
			S 13 19 W	N 13 19 E	2277	Mill.
3	38 04 16.94	75 19 05.45	N 24 24 E	S 24 26 W	5974	Landlet.
			N 80 24 W	S 80 25 E	1412	Tizz.
			S 23 31 W	N 23 30 E	2324	Mill.
4	38 04 11.44	75 18 58.79	N 22 10 E	S 22 11 W	6075	Landlet.
			N 74 59 W	S 75 00 E	1625	Tizz.
			S 29 35 W	N 29 35 E	2238	Mill.

MINK TUMP.

(*Middle Chincoteague Bay—Chart No. 15.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 04 12.42	75 18 51.98	N 20 40 E	S 20 41 W	5978	Landlet.
			N 77 29 W	S 77 30 E	1794	Tizz.
			S 33 02 W	N 33 01 E	2360	Mill.
2	38 04 21.76	75 18 50.49	N 21 25 E	S 21 26 W	5668	Landlet.
			N 87 40 W	S 87 41 E	1792	Tizz.
			S 30 02 W	N 30 01 E	2649	Mill.
3	38 04 19.78	75 18 44.38	N 19 39 E	S 19 39 W	5675	Landlet.
			N 85 55 W	S 85 56 E	1959	Tizz.
			S 33 46 W	N 33 45 E	2678	Mill.

EASTER COVE.

(*Middle Chincoteague Bay—Chart No. 15.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 04 22.64	75 18 40.08	N 18 52 E	S 18 53 W	5546	Landlet.
			N 88 48 W	S 88 49 E	2069	Tizz.
			S 34 37 W	N 34 36 E	2823	Mill.
2	38 04 26.58	75 18 45.34	N 20 42 E	S 20 43 W	5468	Landlet.
			S 87 20 W	N 87 19 E	1930	Tizz.
			S 30 47 W	N 30 47 E	2859	Mill.
3	38 04 31.64	75 18 32.15	N 17 44 E	S 17 45 W	5190	Landlet.
			S 83 30 W	N 83 29 E	2294	Tizz.
			S 34 38 W	N 34 38 E	3193	Mill.

BIG BAY POINT.

(*Middle Chincoteague Bay—Chart No. 15.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 04 14.08	75 17 22.42	N 2 51 W	S 2 51 E	5543	Landlet.
			S 85 24 W	N 85 26 E	4150	Tizz.
			S 61 02 W	N 61 01 E	4199	Mill.
2	38 04 22.96	75 17 34.93	N 0 38 E	S 0 38 W	5238	Landlet.
			N 89 30 W	S 89 32 E	3804	Tizz.
			S 55 04 W	N 55 03 E	4075	Mill.
3	38 04 29.15	75 17 27.00	N 1 45 W	S 1 45 E	5031	Landlet
			S 87 30 W	N 87 28 E	4019	Tizz.
			S 54 25 W	N 54 23 E	4368	Mill.
4	38 04 20.42	75 17 14.93	N 5 06 W	S 5 06 E	5344	Landlet.
			N 88 26 W	S 88 27 E	4338	Tizz.
			S 59 53 W	N 59 51 E	4478	Mill.

KENNEL.

(*Middle Chincoteague Bay—Chart No. 15.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 04 12.60	75 16 55.22	N 10 12 W	S 10 12 E	5676	Landlet.
			N 85 30 W	S 85 32 E	4879	Tizz.
			S 65 44 W	N 65 42 E	4826	Mill.
2	38 04 34.50	75 17 01.40	N 9 47 W	S 9 47 E	4919	Landlet.
			S 85 40 W	N 85 39 E	4712	Tizz.
			S 57 16 W	N 57 14 E	5034	Mill.
3	38 04 36.62	75 16 41.80	N 15 52 W	S 15 53 E	4966	Landlet.
			S 85 20 W	N 85 19 E	5238	Tizz.
			S 59 35 W	N 59 32 E	5516	Mill.
4	38 04 20.50	75 16 38.19	N 15 19 W	S 15 20 E	5503	Landlet.
			N 88 44 W	S 88 46 E	5318	Tizz.
			S 65 08 W	N 65 06 E	5349	Mill.

DRUM.

(*Middle Chincoteague Bay—Chart No. 15.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 04 16.77	75 16 09.80	N 87 42 W	S 87 45 E	6078	Tizz.
			S 69 16 W	N 69 14 E	5998	Mill.
			S 20 02 E	N 20 01 W	6100	Pope Island L. S. S.
2	38 04 30.80	75 16 24.88	S 87 40 W	N 87 38 E	5677	Tizz.
			S 63 30 W	N 63 32 E	5820	Mill.
			S 21 53 E	N 21 52 W	6686	Pope Island L. S. S.
3	38 04 26.84	75 15 56.74	S 89 09 W	N 89 06 E	6423	Tizz.
			S 67 33 W	N 67 30 E	6448	Mill.
			S 16 00 E	N 15 58 W	6316	Pope Island L. S. S.

TOBY.

(*Middle Chincoteague Bay—Chart No. 15.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 03 53.19	75 17 41.43	N 74 04 W	S 74 05 E	3776	Tizz.
			S 67 14 W	N 67 13 E	3435	Mill.
			S 42 34 E	N 42 33 W	6702	Pope Island L. S. S.
2	38 04 18.79	75 17 52.86	N 87 01 W	S 87 02 E	3331	Tizz.
			S 52 33 W	N 52 32 E	3606	Mill.
			S 39 50 E	N 39 48 W	7552	Pope Island L. S. S.
3	38 04 12.21	75 17 35.28	N 84 03 W	S 84 05 E	3816	Tizz.
			S 59 23 W	N 59 22 E	3870	Mill.
			S 38 04 E	N 38 04 W	7084	Pope Island L. S. S.
4	38 03 55.12	75 17 30.78	N 76 04 W	S 76 05 E	4034	Tizz.
			S 68 00 W	N 67 59 E	3723	Mill.
			S 40 21 E	N 40 19 W	6562	Pope Island L. S. S.

DEEP WATER.

(*Middle Chincoteague Bay—Chart No. 15.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 03 46.83	75 17 09.71	N 74 23 W	S 74 25 E	4649	Tizz.
			S 74 29 W	N 74 27 E	4164	Mill.
			S 37 59 E	N 37 58 W	5991	Pope Island L. S. S.
2	38 03 56.42	75 17 04.20	N 78 39 W	S 78 40 E	4717	Tizz.
			S 70 56 W	N 70 54 E	4402	Mill.
			S 35 03 E	N 35 02 W	6164	Pope Island L. S. S.
3	38 03 51.90	75 16 59.53	N 77 10 W	S 77 12 E	4870	Tizz.
			S 73 18 W	N 73 16 E	4473	Mill.
			S 34 55 E	N 34 54 W	5967	Pope Island L. S. S.

STRIKING MARSH.

(*Middle Chincoteague Bay—Chart No. 15.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 03 34.77	75 16 44.41	N 72 09 W	S 72 11 E	5412	Tizz.
			S 81 25 W	N 81 23 E	4741	Mill.
			S 34 55 E	N 34 54 W	5262	Pope Island L. S. S.
2	38 03 57.94	75 16 21.85	N 81 20 W	S 81 21 E	5819	Tizz.
			S 74 17 W	N 74 15 E	5494	Mill.
			S 25 19 E	N 25 18 W	5639	Pope Island L. S. S.
3	38 03 39.24	75 16 13.66	N 75 49 W	S 75 52 E	6159	Tizz.
			S 81 09 W	N 81 07 E	5574	Mill.
			S 26 08 E	N 26 07 W	4975	Pope Island L. S. S.

LEVIN TUMP.

(*Middle Chincoteague Bay—Chart No. 15.*)

Corner of bar	Latitude	Longitude	True bearing Forward	True bearing Back	Distance	U. S. C. & G. S. triangulation station
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 03 30.84	75 16 09.40	N 73 36 W	S 73 38 E	6343	Tizz.
			S 84 10 W	N 84 07 E	5651	Mill.
			S 26 25 E	N 26 22 W	4671	Pope Island L. S. S.
2	38 03 52.17	75 15 52.18	N 80 41 W	S 80 44 E	6630	Tizz.
			S 77 59 W	N 77 57 E	6216	Mill.
			S 18 16 E	N 18 16 W	5163	Pope Island L. S. S.
3	38 03 31.68	75 15 54.96	N 74 45 W	S 74 47 E	6699	Tizz.
			S 84 16 W	N 84 14 E	6037	Mill.
			S 21 44 E	N 21 43 W	4540	Pope Island L. S. S.

WHITE ROCK.

(*Middle Chincoteague Bay—Chart No. 15.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 02 56.80	75 17 24.72	N 54 13 W	S 54 15 E	5025	Tizz.
			N 81 00 W	S 81 02 E	3658	Mill.
			S 53 24 E	N 53 23 W	5101	Pope Island L. S. S.
2	38 03 34.64	75 17 56.02	N 62 52 W	S 62 53 E	3645	Tizz.
			S 75 46 W	N 75 45 E	2866	Mill.
			S 48 48 E	N 48 46 W	6542	Pope Island L. S. S.
3	38 03 48.58	75 17 39.85	N 72 01 W	S 72 03 E	3863	Tizz.
			S 69 54 W	N 69 53 E	3418	Mill.
			S 43 13 E	N 43 11 W	6559	Pope Island L. S. S.
4	38 03 34.38	75 17 08.04	N 69 43 W	S 69 44 E	4821	Tizz.
			S 80 17 W	N 80 15 E	4116	Mill.
			S 40 15 E	N 40 14 W	5636	Pope Island L. S. S.
5	38 03 09.81	75 17 02.78	N 61 48 W	S 61 49 E	5290	Tizz.
			N 88 11 W	S 88 12 E	4199	Mill.
			S 45 14 E	N 45 12 W	4933	Pope Island L. S. S.

HORSEHEAD NORTH.

(*Middle Chincoteague Bay—Chart No. 15.*)

	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 02 51.57	75 15 49.34	N 83 03 W	S 83 06 E	6202	Mill.
			S 14 46 E	N 14 46 W	2698	Md.–Va. (Pope Island.)
			S 28 21 E	N 28 21 W	3249	Pope Island L. S. S.
2	38 02 56.14	75 15 59.71	N 84 13 W	S 84 15 E	5910	Mill.
			S 19 14 E	N 19 14 W	2926	Md.–Va. (Pope Island.)
			S 31 08 E	N 31 07 W	3520	Pope Island L. S. S.
3	38 02 59.21	75 15 49.61	N 85 26 W	S 85 28 E	6168	Mill.
			S 13 37 E	N 13 37 W	2951	Md.–Va. (Pope Island.)
			S 26 27 E	N 26 26 W	3481	Pope Island L. S. S.
4	38 02 55.20	75 15 40.38	N 84 24 W	S 84 26 E	6426	Mill
			S 9 20 E	N 9 19 W	2768	Md.–Va. (Pope Island.)
			S 23 37 E	N 23 37 W	3255	Pope Island L. S. S.

HORSEHEAD SOUTH.

(*Middle Chincoteague Bay—Chart No. 15.*)

Corner of bar	Latitude	Longitude	True bearing		Distance	U. S. C. & G. S. triangulation station
			Forward	Back		
	° ′ ″	° ′ ″	° ′	° ′	*Yards.*	
1	38 02 34.50	75 16 07.00	N 76 53 W	S 76 55 E	5838	Mill.
			S 29 40 E	N 29 40 W	2340	Md.–Va. (Pope Island.)
			S 41 25 E	N 41 24 W	3045	Pope Island L. S. S.
2	38 02 42.51	75 16 17.94	N 78 56 W	S 78 58 E	5495	Mill.
			S 32 12 E	N 32 11 W	2723	Md.–Va. (Pope Island.)
			S 42 05 E	N 42 04 W	3440	Pope Island L. S. S.
3	38 02 46.34	75 15 57.02	N 81 09 W	S 81 12 E	6022	Mill.
			S 20 09 E	N 20 08 W	2592	Md.–Va. (Pope Island.)
			S 33 05 E	N 33 05 W	3202	Pope Island L. S. S.
4	38 02 38.46	75 15 56.34	N 78 43 W	S 78 45 E	6087	Mill.
			S 21 59 E	N 21 59 W	2337	Md.–Va. (Pope Island.)
			S 35 36 E	N 35 36 W	2972	Pope Island L. S. S.

APPENDIXES.

Appendix A.—LAWS RELATING TO THE COOPERATION OF THE COAST AND GEODETIC SURVEY AND BUREAU OF FISHERIES WITH THE MARYLAND SHELL FISH COMMISSION.

The work of the Coast and Geodetic Survey and of the Bureau of Fisheries, in cooperation with the Maryland Shell Fish Commission, in surveying the oyster bars, establishing permanent landmarks at triangulation stations, and preparing for publication the necessary charts and technical and legal descriptions of boundaries and landmarks shown on these charts, has been executed in compliance with a request from the governor of the State of Maryland to the Secretary of Commerce and Labor, and by the authority of the following laws of the United States and Maryland:

[Act of Congress approved May 26, 1906.]

AN ACT To authorize the Secretary of Commerce and Labor to cooperate, through the Bureau of the Coast and Geodetic Survey and the Bureau of Fisheries, with the shellfish commissioners of the State of Maryland in making surveys of the natural oyster beds, bars, and rocks in the waters within the State of Maryland.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of Commerce and Labor be, and he is hereby, authorized and directed, upon the request of the governor of the State of Maryland, to designate such officers, experts, and employees of the Bureau of the Coast and Geodetic Survey and of the Bureau of Fisheries as may be necessary to cooperate with the Maryland State board of shellfish commissioners in making a survey of and locating the natural oyster beds, bars, and rocks in the waters within the State of Maryland; and the Secretary of Commerce and Labor is hereby authorized and directed to furnish to the officers, experts, and employees of said Bureaus so detailed as aforesaid such instruments, appliances, and steam launches as may be necessary to make the survey aforesaid; and the Secretary of Commerce and Labor is hereby authorized to have made in the Bureau of the Coast and Geodetic Survey all the plats necessary to show the results of the aforesaid survey and the locations of the said natural oyster beds, bars, and rocks in the waters within the State of Maryland, and to furnish to the board of shellfish commissioners of the State of Maryland such copies as may be necessary, and for this purpose to employ, in the District of Columbia and elsewhere, such technically qualified persons as may be necessary to carry out the purpose of this act.

Sec. 2. That the Secretary of Commerce and Labor is hereby further authorized to have erected or constructed by the officers so detailed as aforesaid, while making such survey, such structures as may be necessary to mark the points of triangulation, so that the same may be used for such future work of the Coast and Geodetic Survey as the said Bureau may be hereafter required to perform in prosecuting the Government coast survey of the navigable waters of the United States located within the State of Maryland.

* * * * * * *

Sec. 4. That this act shall take effect from the date of its passage.

[Act of Congress approved June 30, 1906.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and seven, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and seven, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including the expenditures authorized under Public Act Numbered One hundred and eighty-one, approved May twenty-sixth, nineteen hundred and six, and contingent expenses incident thereto, five thousand dollars, together with the unexpended balance under this appropriation for nineteen hundred and six and prior years which is hereby reappropriated and made available on this account for the fiscal year nineteen hundred and seven. * * *

[Act of Congress approved March 4, 1907.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and eight, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and eight, namely: * * *

COAST AND GEODETIC SURVEY: * * *. For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, to be immediately available and to continue available until expended, twenty-five thousand dollars. * * *

[Act of Congress approved May 27, 1908.]

AN ACT Making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and nine, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, for the objects hereinafter expressed, for the fiscal year ending June thirtieth, nineteen hundred and nine, namely: * * *

COAST AND GEODETIC SURVEY: * * * For any special surveys * * * including expenses of surveys in aid of the shellfish commission of the State of Maryland, which expenses, including cost of plats and charts, shall not exceed fifteen thousand dollars in any one year, to be immediately available, twenty thousand dollars.

[Act of the legislature of Maryland approved April 2, 1906.]

AN ACT To establish and promote the industry of oyster culture in Maryland, to define and mark natural oyster beds, bars and rocks lying under the waters of this State, to prescribe penalties for the infringement of the provisions of this Act, and * * *

SECTION 1. *Be it enacted by the General Assembly of Maryland*, That the following sections be, and they are hereby, added to Article 72 of the Code of Public General Laws, title "Oysters." * * *

SEC. 86. The Board of Shell Fish Commissioners shall, as soon as practicable after the passage of this Act, cause to be made a true and accurate survey of the natural oyster beds, bars and rocks of this State, said survey to be made with reference to fixed and permanent objects on the shore, giving courses and distances, to be fully described and set out in a written report of said survey, as hereinafter required. A true and accurate delineation of the same shall be made on copies of published maps and charts of the United States coast and geodetic survey, which said copies shall be filed in the office of the said commissioners in the city of Annapolis; and the said commissioners shall further cause to be

delineated upon copies of the published maps and charts of the United States coast and geodetic survey, of the largest scale, one copy for each of the counties of this State in the waters of which there are natural oyster beds, bars and rocks, all natural beds, bars and rocks lying within the waters of such county, which maps shall be filed in the offices of the clerks of the Circuit Court for the respective counties wherein the grounds so designated may lie. * * *

SEC. 87. The Governor of this State is hereby requested to ask the assistance of the United States coast and geodetic survey, and of the United States Fish Commissioner, to aid in the carrying out of the provisions of the preceding section.

* * * * * * *

SEC. 89. As soon as practicable after the first day of April, 1906, the said commissioners shall organize, and shall at once proceed, with the assistance of such person or persons as may be detailed by the United States coast and geodetic survey, and the United States Fish Commissioner, to aid them in their work, and of such persons as may be appointed under the preceding section, to have laid out, surveyed and designated on the said charts, the natural beds and bars, and shall cause to be marked and defined as accurately as practicable, the limits and boundaries of the natural beds, bars and rocks, as established by said survey, and they shall take true and accurate notes of said survey in writing, and make an accurate report of said survey, setting forth such a description of landmarks as may be necessary to enable the said board, or their successors, to find and ascertain the boundary lines of the said natural oyster beds, bars and rocks, as shown by a delineation on the maps and charts provided in this Act; said report shall be completed and filed in the office of the board in the city of Annapolis within ninety days after the completion of the survey of any county. Said commissioners shall cause the same to be published in pamphlet form, and transmit copies of the same to the clerks of the Circuit Court for the respective counties, where the charts have been filed or directed to be filed as hereinafter provided; the said report to be filed by the clerks of the several counties in a book kept for that purpose. And the said survey and report, when filed, subject to the right of appeal hereafter provided for in this Act, shall be taken in all of the courts of this State as conclusive evidence of the boundaries and limits of all natural oyster beds, bars and rocks, lying within the waters of the county wherein such survey and report are filed, and shall be construed to mean in all of the said courts that there are no natural oyster beds, bars or rocks lying within the waters of the counties wherein such report and survey are filed, other than those embraced in the survey authorized by this Act, and that all areas of the Chesapeake Bay and its tributaries within the State of Maryland, not shown in the survey to be natural oyster beds, bars or rocks shall be construed in all the courts of the State to be barren bottoms, and open for disposal by the State for the purpose of private planting or propagation of oysters thereon under the provisions of this Act; provided, that the said survey and report shall not be construed as to affect in any manner the holdings by citizens of this State in any lot which may have been appropriated or taken up under the laws of this State prior to the approval of this Act.

The law of the State of Maryland, passed March 9, 1842, authorizing officers of the United States Coast and Geodetic Survey to enter upon the lands within the State limits for the purposes of the Survey, is as follows:

AN ACT Concerning the Survey of the Coast of Maryland.

SECTION 1. *Be it enacted by the General Assembly of Maryland*, That it shall and may be lawful for any person or persons employed under and by virtue of an act of the Congress of the United States, * * * at any time hereafter to enter upon lands within this State for the purpose of exploring, surveying, triangulating, or levelling, or doing any other matter or thing which may be necessary to effect the objects of said act, and to erect any works, stations, buildings, or appendages requisite for that purpose, doing no unnecessary injury to private or other property.

SEC. 2.[a] *And be it enacted*, That in case the person or persons employed under the act of Congress aforesaid, can not agree with the owners or possessors of the land so entered upon and used as to the

[a] Under the rulings of the Comptroller of the Treasury no damages can be collected except through the United States Court of Claims unless an agreement has been made in advance.

amount of damage done thereto by reason of the removal of fences, cutting of trees or injury to the crop or crops growing on the same, it shall and may be lawful for the said parties or either of them to apply to the chief justice for the time being or one of the associate judges of the judicial district in which such land may be situated, who shall thereupon appoint three disinterested and judicious freeholders, residents of the same judicial district, to proceed with as much despatch as possible to the examination of the matter in question, and the faithful assessment of the damages sustained by the owners or possessors aforesaid, and the said freeholders or a majority of them, having first taken and subscribed an oath or affirmation before the chief or associate justice aforesaid or other person duly authorized to administer the same, that they will well and truly examine and assess as aforesaid, and having given five days' notice to both parties of the time of their meeting, shall proceed to the spot, and then and there upon their own view and if required, upon the evidence of witnesses, (to be by them sworn or affirmed and examined) shall assess the said damages, and shall afterward make report thereof and of their proceedings in writing under their hands and seals and file the same within five days thereafter in the office of the clerk of the county in which the land aforesaid is situated, subject to an appeal by either party to the county court of the said county within ten days after filing as aforesaid, and the said report so made as aforesaid if no appeal as aforesaid be taken, shall be held to be final and conclusive as between the said parties, and the amount so assessed and reported shall be paid to the said owners or possessors of the land so damaged within twenty days after the filing of said report, and the said chief or associate justice as aforesaid, shall have authority to tax and allow upon the filing of said report, such costs, fees and expenses to the said freeholders for the performance of their duty as he shall think equitable and just, which allowance shall be paid by the person or persons employed under the act of congress aforesaid, within the time last above limited, but if an appeal as aforesaid be taken, the case shall be set down for hearing at the first term of county court aforesaid, ensuing upon and after appeal, and it shall be lawful for either party immediately after the entry of such appeal, to take out summons for such witnesses as may be necessary to be examined upon the hearing aforesaid, and the said court shall have power in its discretion to award costs against which ever the final judgment shall be entered, and such appeal at the option of either party may and shall be heard before and the damage assessed by a jury of twelve men to be taken from the regular panel and elected as in other cases.

SEC. 3. *And be it enacted*, That if any person or persons shall wilfully injure or deface or remove any signal, monument or building or any appendage thereto, erected, used or constructed under and by virtue of the act of congress aforesaid, such person or persons so offending shall severally forfeit and pay the sum of fifty dollars with costs of suit to be sued for and recovered by any person who shall first prosecute the same before any justice of the peace of the county where the person so offending may reside, and shall also be liable to pay the amount of damages thereby sustained, to be recovered with costs of suit in an action on the case, in the name and for the use of the United States of America, in any court of competent jurisdiction.

APPENDIX B.—THE HAMAN OYSTER CULTURE LAW.

[Extract from Second Report of Shell Fish Commission.]

OBJECT.

"The legislature in placing chapter 711 of the acts of 1906, better known as the Haman Oyster Culture Law, upon the statute books of Maryland had a twofold object in view:

1. To *encourage* an industry in oyster culture upon the *barren bottoms* beneath the tidewaters of the State.

2. To *prevent* the leasing of *natural oyster bars* for the purpose of oyster culture."

SURVEY.

"To make the leasing of barren bottoms possible and the leasing of natural bars impossible, provision was made for a survey of the natural bars for the purpose of accurately locating and marking the same. It was definitely provided that no barren bottoms should be leased in any part of the State until the natural bars of that region had been surveyed, charted, and marked with buoys."

Definition of a Natural Oyster Bar.

NATURAL BAR NOT DEFINED.

"The Shell Fish Commission is instructed by section 90 of the Haman Oyster Culture Law to exercise its judgment liberally in favor of the natural bars when surveying, charting and buoying them, but other than this the Commission is uninstructed in this important matter. The responsibility of defining a natural bar is placed upon the Commission."

DIVERSITY OF OPINION.

"No definition of a natural oyster bar could be formulated by any man or body of men which would meet with the approval of all parties concerned. Oystermen, as a rule, hold that all bottoms where oysters grow or have grown naturally even though now practically barren of oysters should be considered natural bars. Other citizens of the State who are not directly interested in the oyster business, but interested in the oyster industry from the standpoint of revenue, hold, as a rule, that no bottoms should be excluded from leasing for oyster culture which, by methods known to oyster culturists, may be made to yield a greater number of oysters than they now produce."

"It should be evident to every one that neither of these definitions could be adopted by the Commission as a working basis for determining which of the grounds surveyed are natural oyster bars."

THE GOLDSBOROUGH DEFINITION.

The definition of a natural oyster bar which very nearly approaches a reasonable and satisfactory compromise between the views of the subject held by *oystermen* on one hand and by *oyster culturists* on the other is that contained in an opinion rendered by Judge Charles F. Goldsborough in the circuit court for Dorchester County in the July term, 1881, in the case of William T. Windsor and George R. Todd *v.* Job T. Moore.

This definition has been adopted by the Shell Fish Commission as the basis for the determination of the status of the various oyster bottoms surveyed and is as follows:

What then is a natural bar or bed of oysters? It would be a palpable absurdity for the State to attempt to promote the propagation and growth of oysters and to encourage its citizens, by a grant of land, to engage in their culture, if the lands authorized to be taken up were only those upon which oysters do not and can not be made to grow. That there may be lands covered by water in the State where no oysters can be found, but where, if planted, they could be cultivated successfully, may be possible, but, if so, I imagine that their extent must be too limited for them to be of much practical, general advantage for the purposes of such a law as the one under discussion; but there are thousands of acres of hard and shifting sands where oysters not only are not found, but where it would be folly to plant them; and these latter it can not be supposed that the State intended to offer to give away, for the simple reason that the State could not help knowing that nobody would have them.

Upon the other hand there are large and numerous tracts where oysters of natural growth may be found in moderate numbers, but not in quantities sufficient to make it profitable to catch them, and yet where oysters may be successfully planted and propagated. In my opinion these can not be called natural bars or beds of oysters, within the meaning of the Act of Assembly, and it is just such lands as these that the State meant to allow to be taken up under the provisions of the above-mentioned section of the Act.

But there is still another class of lands where oysters grow naturally and in large quantities and to which the public are now and have been for many years in the habit of resorting with a view to earning a livelihood by catching this natural growth, and here, I think, is the true test of the whole question. Land can not be said to be a natural oyster bar or bed merely because oysters are scattered here and there upon it, and because if planted they will readily live and thrive there; but whenever the natural growth is so thick and abundant that the public resort to it for a livelihood, it is a natural oyster bar or bed and comes within the above-quoted restriction in the law, and can not be located or appropriated by any individual.

APPLICATION OF DEFINITION.

Before this definition may be of use in determining, accurately and scientifically, the status of an oyster ground, its central idea, "livelihood," must be expanded into accurately determinable factors, and these factors must be combined into a practical scheme of investigating the condition of the ground under consideration.

Stated briefly, a *livelihood* is represented by a *sum of money* obtained from the sale, at a fixed *price*, of a certain *quantity of oysters* gathered in a given *time* from an allotted *area* of ground.

Knowing the value of each of these factors it becomes possible to calculate the number of oysters an oyster ground must produce per square yard in order that oystermen may secure a livelihood by working upon it.

NOTE.—The factors into which the Commission resolved the livelihood problem, the value assigned to each factor, and the scheme devised for practical use in examining and applying the definition to oyster bottoms are given in outline in their Second Report under the heading of the preceding extract, and in detail in their First Report on pages 32 to 69.

APPENDIX C.—SUMMARY OF THE PARTICULAR SURVEYING OPERATIONS WHICH CONSTITUTE AN "OYSTER SURVEY" AS NOW BEING CARRIED ON IN MARYLAND.

Explanation.—A brief account of the particular surveying operations which constitute an "oyster survey" as now being carried on in Maryland will assist in the interpretation of records contained in the technical part of this report, and will be of interest to many who may not understand the necessity for the great amount of work being done or its complicated character.

To those familiar with methods used in surveying and charting the characteristic features of large bodies of water there is an evident necessity for the various operations performed, especially when it is known that the boundaries of the public oyster bars and of the private lots leased for purposes of oyster culture must be surveyed and charted with the greatest practical accuracy. To others it will be sufficient to state that the actual experience gained from oyster surveys in other States has proven that in order to avoid endless dissatisfaction and litigation it is necessary to accurately locate and permanently establish oyster boundaries as is now being done in Maryland.

Triangulation survey.—Such refinement of survey work as that demanded by the conditions of an oyster survey when carried on at considerable distances offshore can only be obtained by the use of a system of triangulation as a frame work or foundation. Therefore, a triangulation survey including the permanent marking of the positions of landmarks with monuments and a record of the descriptions of their locations for future recovery is a necessary operation of a complete oyster survey.

Topographic survey.—The technical records which establish the relation between the offshore oyster boundaries and triangulation landmarks are sufficient for the requirements of engineers in making resurveys, but do not supply the needs of others who are interested in the same boundaries by reason of their occupation as oystermen concerned as to the public oyster bars, or oyster culturists concerned as to the leasable bottoms. For these it is necessary to have the charts of the survey show the relation of the shore line and other topographic features to the boundaries of the public oyster bars and private oyster farms. Therefore, a topographic survey is a necessary operation of a complete oyster survey.

Hydrographic survey.—In the settlement of the important question of what is, or what is not, a natural oyster bar, and in the consideration of bottoms to be selected for purposes of oyster culture, information as to the depth of water and the character of the bottom is required. Therefore, a hydrographic survey is a necessary operation of a complete oyster survey.

Necessary foundation for an oyster survey.—Consequently, the necessary components of a satisfactory foundation for a complete oyster survey are the three classes of survey operations technically named triangulation, topography, and hydrography, or, stated in another way, the foundation of a practical oyster survey includes the surveying operations usually followed by the Coast and Geodetic Survey leading up to the preparation and publication of nautical charts.

Special surveys and investigations pertaining to oysters.—Having obtained this cartographic survey for a foundation, partly by new work and partly from records of previous work of the Government, the combined operations [a] making up an "oyster survey" are completed by superimposing on this foundation special surveys and investigations pertaining particularly to oysters or other shell fish.

The special surveys pertaining to oysters furnish information as to the location and outline of oyster-shell bottoms, and are carried on by the sounding boat party in addition to the usual hydrographic work.[b] This operation consists of the observation and record of the character of vibration of a wire and chain apparatus which is dragged over the bottom, the vibrations or lack of vibrations indicating the presence and quantity of shells or absence of shells.

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[a] See Appendix D of this publication for "Statistics of results of combined operations of the Government and State."

[b] See pages 104 to 123 of "First Annual Report of Maryland Shell Fish Commission."

The special oyster investigations[a] consist of the actual determination of the kind and quantity of oysters on the bottom, and such economic and biological studies of the supply of oyster food, density of water, character of the bottom, and other important matters as affect the growth of oysters. In this work the oyster investigation stations are located and buoyed by the hydrographic party while engaged in the survey of the oyster-shell limits. They are selected with the view of obtaining characteristic data which can be used for the interpretation of the recorded vibrations of the chain apparatus at all other points covered by the survey.

Preparation of results.—The actual surveying operations and oyster investigations having been completed for any one county, there still remains technical work of nearly equal magnitude to that described.[b] This work consists of the preparation of charts and technical descriptions of boundaries and landmarks for publication by the Government, the preparation of that part of the annual report of the Commission covering the special oyster surveys and investigations, the making of the leasing charts and finished projections, and finally the filing of the oyster charts and records with the courts and the Commission, thus opening a county for oyster culture.

Summary.—From the foregoing account it can be seen that a complete oyster survey properly conducted so as to answer all practical requirements of the present and permanency of results for the future is a very complicated affair, involving many lines of surveying and other scientific work, and requiring the professional services of experts in the various operations of cartographic surveying and shell-fish investigations.

APPENDIX D.—STATISTICS OF RESULTS OF THE COMBINED OYSTER SURVEY OPERATIONS OF THE GOVERNMENT AND STATE.[c]

Operations	Anne Arundel County[d]	Somerset County[d]	Wicomico County[d]	Worcester County[d]	Total
Natural oyster bars surveyed and delineated	91	37	15	28	171
Acres of natural oyster bars	33,666	27,566	2,038	1,655	[e] 64,925
Crab bottoms surveyed and delineated		54			54
Acres of crab bottoms		32,108			32,108
Clam beds surveyed and delineated		3			3
Acres of clam beds		506			506
Boundary buoys located and planted	362	154	53	108	677
Triangulation landmarks established	123	86	30	48	[f] 257
Miles of shore line covered by triangulation	110	125	46	95	[f] 360
Square miles of water covered by triangulation	220	375	44	110	[f] 730
Miles of examination of shell bottom with chain apparatus	369	296	58	63	786
Oyster investigation stations occupied	440	679	162	147	1,428
Tide stations established	4	3	1	1	9
Number of soundings over shell bottoms	37,049	17,904	3,387	3,649	61,989
Square miles covered by soundings and chain apparatus	58	47	3	3	111
Projections prepared and plotted	9	13	2	5	[f] 28
Leasing charts prepared	13	12	2	3	30
Oyster charts published	4	6	2	3	15
Reports published	2	2	2	2	[f] 6
Progress maps published	2	2	2	2	[f] 6

[a] See pages 30 to 67 and 129 to 199 of "First Annual Report of Maryland Shell Fish Commission."

[b] No mention is made here of the large amount of administrative work of the Commission, which is greatly complicated and increased by the effect of the oyster-survey operations on many thousands of people whose interests are more or less involved; or of the large amount of survey work involved in the survey and record of the boundaries of oyster lots leased from the State by private individuals for the purposes of oyster culture.

[c] These statistics do not include the large amount of triangulation, topography, and hydrography resulting from previous work of the Coast and Geodetic Survey which was utilized in the preparation of the published oyster charts and records.

[d] Work in Calvert, St. Marys, and Charles counties has been finished, but final statistics of results will not be published until these counties are opened for oyster culture.

[e] Total area of natural oyster bars of Connecticut is 5,770 acres.

[f] Less quantities covered by statistics of more than one county.

COAST AND GEODETIC SURVEY

PROGRESS MAP

WORCESTER COUNTY
MARYLAND

To accompany report of work of United States Coast and Geodetic Survey in cooperation with the Maryland Shell Fish Commission

1907-1908

CHART No.13.

CHART No.14.

CHART No.15.

Projection A

Projection B

Projection C

Projection D

Projection E

ISLE OF WIGHT BAY

Thorofare

Gantt

Collier

Convent Water Tower

Hamilton

Harmon

Berlin City Water Tower

Buffing

Buffington Windmill

Gull

Inkquitt

Seaside

Ellpow

Beach

Fassett

Shore

Nellys

Longwells Windmill

Bar

Sunpol

Newport

Neck

Ingrava

Mull

Sale

NEWPORT BAY

Handys Hammock

Birch

North Beach U.S.S.

Ricks

Guilberts Cupola

CHARTER LIMITS OF SINEPUXENT SALT WATER INLET COMPANY

Beacon's Clumps

Landlet

Green Run Inlet U.S.S. Flagstaff

Mill

MARYLAND

VIRGINIA

Md. Va. Line

Md. Va. Line (Post)

Pope Lt. U.S.S.

Md. Va. Line (Post) (Beach)

Md. Tidewater Mem.

Grace M.E. Ch.

Long Pt.

Powell Bay

Wildcat

Chincoteague Island

Killick Shoal Light

Assateague Light

ATLANTIC OCEAN

Landmarks (Coast Survey Triangulation Stations)

Maryland-Virginia Boundary Line

Limits of projections on file at Washington

Limits of charts published by Coast and Geodetic Survey

Scale 1:80000